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# Agricultural Situation

Review of 1979 and Outlook for 1980

USSR

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Economics, Statistics, and Cooperatives Service  
Approved by the World Food and Agricultural Outlook and Situation Board



**USSR AGRICULTURAL SITUATION: REVIEW OF 1979 AND OUTLOOK FOR 1980.**  
Eastern Europe and USSR Branch, International Economics Division, Economics, Statistics, and Cooperatives Service. Supplement. 1 to WAS-21. Approved by the World Food and Agricultural Outlook and Situation Board.

### **ABSTRACT**

In response to the USSR's invasion of Afghanistan, the President suspended sales of commodities directly used in the Soviet feed-livestock economy, and feed and meat substitutes. Eight million tons of wheat and corn were permitted to be shipped under the terms of the US-USSR Grain Agreement. Soviet grain production in 1979, fell to 179 million tons, 48 million tons below plan. Effects of the suspension and tight feed situation are expected March-June 1980. Livestock inventories recorded small gains in 1979. Meat output remained at 1978 levels. Attainment of 1980 plan output goals would require favorable weather conditions, and an above average grain crop.

**KEYWORDS:** Soviet Union, U.S. trade suspension, agricultural production, crops, livestock, agricultural inputs, agricultural trade.

## FOREWORD

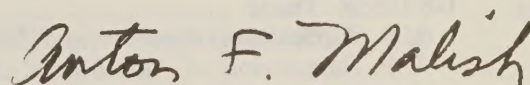
This report reviews and analyzes major developments in Soviet agriculture during 1979 and provides information on the outlook for 1980. Developments of major concern to the United States are emphasized, especially those affecting the outlook for foreign trade of farm commodities.

A major development was the suspension of sales of certain agricultural commodities to the USSR. This action, taken in response to the Soviet Union's invasion of Afghanistan, is discussed in some detail on page 18. As this report is going to press, the trade suspension is having a noticable effect on the USSR.

This report updates and supplements statistics and other information found in *USSR Agricultural Situation: Review of 1978 and Outlook for 1979*, Supplement 1 to World Agricultural Situation Report No. 18. Other regional reports are published on Western Europe, Eastern Europe, the Western Hemisphere, Africa and West Asia, Asia and Oceania, and the People's Republic of China.

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# CONVERSION EQUIVALENTS

## Pounds per bushel

Wheat, potatoes, and soybeans.....	60
Rye, corn, and grain sorghum.....	56
Barley.....	48
Oats.....	32

One kilogram	equals	2.2046 pounds
One centner or metric quintal	"	220.46 pounds
One metric ton	"	10 centners or 2204.6 pounds
One hectare	"	2.471 acres
One acre	"	0.4 hectare
One kilometer	"	0.6 mile

## Metric tons to bushels

<u>One metric ton</u>	<u>Bushels</u>
Wheat, potatoes, and soybeans.....	36.743
Rye, corn, and grain sorghum.....	39.368
Barley.....	45.929
Oats.....	68.894

## Bushels to metric tons

<u>One bushel</u>	<u>Metric tons</u>
Wheat, potatoes, and soybeans.....	.02722
Rye, corn, and grain sorghum.....	.02540
Barley.....	.02177
Oats.....	.01452

## To convert centners per hectare to bushels per acre, multiply by:

Wheat, potatoes, and soybeans.....	1.487
Rye, corn, and grain sorghum.....	1.593
Barley.....	1.8587
Oats.....	2.788

## To convert bushels per acre to centners (metric quintals) per hectare, multiply by:

Wheat, potatoes, and soybeans.....	0.6725
Rye, corn, and grain sorghum.....	0.6277
Barley.....	0.5380
Oats.....	0.3587

One metric ton of seed cotton = 1.562 bales of 480 pounds.  
 One metric ton of ginned cotton = 4.593 bales of 480 pounds.  
 One pood = 16.3805 kilograms.  
 One metric ton of eggs = 18,182 eggs.







## USSR AGRICULTURAL SITUATION

### Review of 1979 and Outlook for 1980

#### SUMMARY

On January 4, 1980, the President, in response to the Soviet Union's invasion of Afghanistan, announced a series of foreign policy and national security actions. One of these was the curtailment of shipments of agricultural commodities, except for the 8 million tons of wheat and corn that the United States was obligated to supply under the fourth year of the U.S.-USSR Grain Agreement. The commodities affected include those directly used in the Soviet feed-livestock economy and products which could substitute for feed or meat under certain circumstances.

The suspension of further U.S. grain exports is expected to aggravate an already tight feed supply situation in the USSR, particularly during March-June 1980 before USSR winter grains are harvested. The Soviets are likely to draw down available stocks, seek alternative sources of grains in world markets (short term and longer term), and make appropriate adjustments in their livestock sector. The USSR will probably place more emphasis on domestic production of feed grains in future years.

The USSR's economic performance in 1979 was very poor. National income grew only 2.0 percent as compared to the 4.3 percent planned increase.

Soviet agriculture was partly responsible for this poor economic performance. Agricultural output, valued at 123.5 billion rubles was 4 percent below the 1978 level and 10 percent below the 1979 plan.<sup>1</sup>

Grain production<sup>2</sup> fell to 179 million metric tons (MMT), the lowest level since 1975. The average grain yield for 1979 was 1.42 tons per hectare and final grain area was 126.4 million hectares, the smallest since 1972.

The poor crop performance can be attributed primarily to unfavorable weather conditions through-

out the 1978-79 crop year in the European area of the USSR. Cool wet weather delayed fall seeding, and severe winter conditions raised winterkill to above average levels. The spring was also cool and wet, delaying spring seeding. The net result was a severely reduced total grain area. Two months of summer drought and a series of *sukhoveys* (hot, dry winds) reduced yields considerably. More favorable weather conditions east of the Urals, however, prevented the kind of losses evident in 1975.

Sugarbeet production, at 76 MMT, was the lowest since 1975, 19 percent below 1978 levels and 22 percent below plan. Total sugar production (including that made from imported sugarcane) was 10.6 million tons, down 13 percent from 1978. Vegetable production was down 8 percent, even though acreage reached record levels. Sunflowerseed output remained near the poor 1978 level; the 5.37 million tons fell short of plan goals by over 2 million tons. While the 1978 crop suffered from a cold wet summer, the 1979 crop lacked adequate moisture and was damaged by *sukhoveys*. Cottonseed output was estimated at 5.1 million tons; soybean production was estimated at 600,000 tons. Vegetable oil production fell 5 percent from 1978 to 2.8 MMT. Oil production would have been even lower had the Soviets not imported large quantities of soybeans.

Two exceptions to the generally dismal picture were cotton and potatoes. Cotton production reached 9.16 million tons (raw basis), 5 percent above the previous record and 4 percent above plan. Potato production reached 90.3 million tons; high yields have kept production up despite reduced acreage.

Livestock inventories made small gains in 1979 and reached record levels, except for sheep and goats. Total cattle numbers on January 1, 1980, reached 115 million head, up nearly a percentage point over last year. Hog inventories increased by 216,000 head to 73.7 million. Poultry inventories are estimated at about a billion birds.

<sup>1</sup>*Pravda*, January 26, 1980, p. 1.

<sup>2</sup>The Soviet definition of grain includes wheat, coarse grains, pulses, paddy rice, buckwheat, and miscellaneous grains. All units of measure used in this report are metric unless otherwise indicated.

Meat production in 1979 totaled 15.5 MMT (slaughter weight), the same as 1978 and 1.1 million tons below plan. Milk production, at 93.3 million tons was down 1 percent from 1978 and 5.3 million tons below plan. Butter production also declined by 8 percent to 1.3 million tons.

Agricultural investments rose 3 percent over 1978 to 35.3 billion rubles. Capital investment in agriculture accounted for 27 percent of total investments. Agriculture's share has remained at about this level since 1974. Approximately 700,000 hectares of newly irrigated land were brought into production. An additional 760,000 hectares were drained for agricultural use. Tractor deliveries lagged behind 1978 while truck and combine deliveries rose slightly. Fertilizer production fell to

94.5 million tons, 17 percent below original plan levels. Since 1975 the growth in fertilizer output has slowed dramatically and production shortfalls continue to severely restrain crop production.

U.S. agricultural exports to the USSR were valued at \$2.8 billion,<sup>3</sup> 62 percent over the 1978 record. U.S. wheat exports were valued at \$0.8 billion, more than doubled; coarse grain exports rose 29 percent to \$1.4 billion. U.S. soybean exports doubled from 1978 levels, reaching \$459 million. The suspension of sales in 1980 will greatly reduce exports of these key commodities. (*Mary Ponomarenko*)

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<sup>3</sup>Excluding transshipments.

## SUMMER DROUGHT CUTS 1979 GRAIN PRODUCTION

Grain production in 1979 fell to 179 million tons, 48 million tons below plan and 58 million tons below the record 1978 crop.<sup>4</sup> Over the past 4 years of the tenth five-year plan (1976-80) grain production has averaged 209 million tons with wide year-to-year variations in yield (table 14). Production in 1980 must exceed the 235.1-million-ton plan goal to meet the average annual tenth five-year plan target of 215-220 million tons. The grain area in 1979 was down over 2 million hectares from a year earlier, and nearly 4 million hectares from 1977 to 126.4 million hectares—the smallest grain area since 1972. Grain yields in 1979 were down 23 percent from 1978, and down almost 3 percent from the average annual yield in the ninth five-year plan (1971-75).

Unfavorable weather conditions throughout the growing season over large areas of European USSR were primarily responsible for the poor 1979 grain crop. The delayed harvest of the 1978 grain crop, coupled with cool wet weather well into the fall of 1978, postponed fieldwork and reduced fall seedings. Fall sown area for grain in 1978 was estimated at about 33 million hectares, 4 million less than plan and fall seedings in 1976 and 1977. Severe winter weather raised overall winterkill to about 20 percent—an above average level.<sup>5</sup> Consequently, the spring productive winter grain area in 1979 was just over 26.6 million

hectares, down 17 percent from a year earlier. The spring productive winter rye area was at an historical low of 6.5 million hectares, reflecting a combination of fall seeding problems and the above-average winterkill.

A cool, wet spring in 1979 delayed fieldwork and postponed spring seeding. This development was especially serious in light of the small winter grain area and the necessity to reseed those areas lost to winterkill. By the end of April, the Soviets had sown only 30.0 million hectares of spring small grains and pulses—only 18 percent of plan. This was the slowest spring seeding progress since at least 1970. As the weather cleared in May, spring seeding accelerated, but optimal seeding dates were missed in some regions, thereby exposing the crop to higher risks of summer drought damage.

Along with clear weather in May and June came 2 months of drought over major agricultural regions of European USSR. The Ukraine, North Caucasus, Volga Valley, parts of the Black Soil zone, and Belorussia were hit by three distinct *sukhoveys*, or hot dry winds. These high velocity winds, which occur with some frequency, can desiccate crops by drawing moisture out of plants faster than it can be replenished by soil moisture. *Sukhoveys*, depending on their severity and the stage of crop development, have been known to completely destroy crops in a matter of a few days. In most cases *sukhoveys* are associated with reduction in yield potential.

The general 2-month drought, in conjunction with the *sukhoveys*, sharply reduced grain yields in European USSR. A complete crop disaster such as in 1975 was avoided because of favorable

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<sup>4</sup>Soviet data used in this report on grain production and yield are in terms of "bunker-weight", i.e. grain as it comes from the combines and therefore contains varying amounts of moisture and foreign material.

<sup>5</sup>The difference between winter grain area sown and final winter crop area has averaged 17.5 percent in the 1974-78 period.



weather conditions east of the Urals in Siberia, Kazakhstan, and Central Asia.

State grain procurements in 1979 were well below the year earlier record of 95.9 million tons. As of the beginning of October, the Russian Soviet Federated Socialist Republic (RSFSR) had sold 23.4 million tons of grain to the state, 43 percent of plan.<sup>6</sup> Procurements in Kazakhstan reached a record 20.7 million tons, in line with the republic's record grain crop of 34.5 million tons.<sup>7</sup> Total grain procurements for the USSR were not announced in the annual plan fulfillment report.

The Soviets seldom offer specific data regarding the quality of grain procurements, but wheat procurements from the 1979 crop were estimated to be relatively low in gluten content. The regional distribution of production and harvesting conditions of wheat appear to be similar to 1972. In that year, of the total 42.1 million tons of wheat purchased by the state, only 34 percent (14.3 million tons) had a gluten content equal to or greater than 25 percent. The average gluten content of wheat procurements in 1972 was 21.7 percent, compared with a 23.4-percent average during 1971-75, and the test weight (*naturny ves*) was only 732 grams per liter, versus an average of 751 grams over the same period.<sup>8</sup> If Soviet wheat procurements in 1979 were similarly low in gluten content, then quality factors would partially explain the near-record wheat imports expected in 1979/80.

Regional grain production figures for the three major grain producing republics clearly reflect the disparity in crop conditions. The Ukraine, which suffered most seriously from the drought in May and June, harvested only 34.0 million tons, down from 50.6 million in 1978 (table 17), and the smallest crop since 1975. Harvesting of small grains and pulses was completed around mid-August, and as much as 10 percent of the small grain and pulse crop area may have been abandoned. The RSFSR produced a 91.7-million-ton grain crop, including 44.3 million tons of wheat. The total crop was down 33 percent from 1978. Kazakhstan's grain output, however, was a record 34.5 million tons, surpassing the 1976 record of 29.8 million tons. The remaining 12 republics produced just less than 20 million tons, down from 22.4 million tons in 1978.

<sup>6</sup>Sovetskaya Rossiya, October 4, 1979, p. 1.

<sup>7</sup>Kazakhstanskaya pravda, November 2, 1979, p. 1.

<sup>8</sup>A. S. Baranov, *Gosudarstvennye zagotovki v usloviyakh spetsializatsii i kontsentratsii sel'skokhozyaistvennogo proizvodstva*, (Moscow: Kolos, 1978), p. 120.

## USSR Grain Production

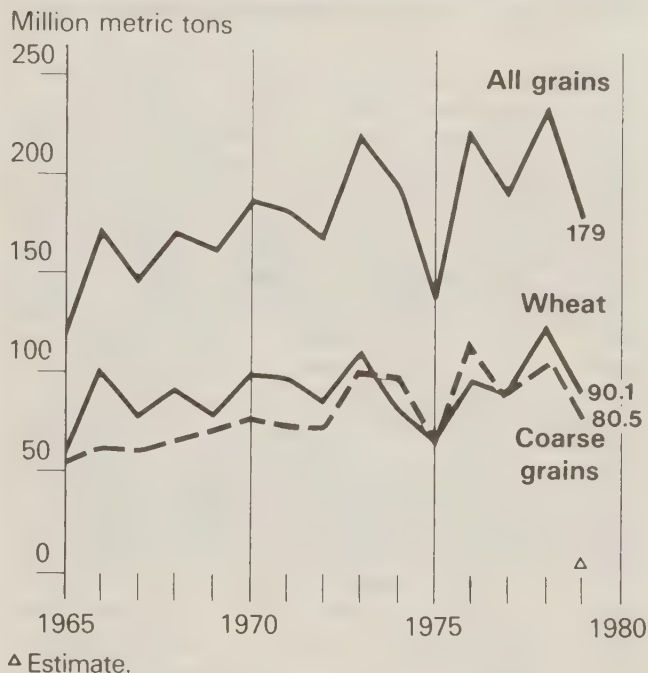


Figure 1

Wheat production in 1979 fell 30.7 million tons from 1978 to 90.1 million (table 14). Winter wheat output, estimated at 38 million tons, was the lowest since 1975. Spring wheat production probably equaled the previous year's output of 52 million tons. Rye production fell to a record low of only 8.1 million tons primarily due to the record low area. Corn production remained a disappointment for the second consecutive year as late sowing and drought cut yields over the Ukraine and North Caucasus. Production was down from 1978 to only 8.4 million tons. The 1979 barley crop was poor because the summer drought affected extensive areas of spring barley, some of which had been used to reseed winter-killed wheat in European USSR. Total coarse grain production fell 24 percent from a year earlier to 80.5 million tons despite an increase in area to 62.6 million hectares.

As of March, total grain utilization for 1979/80 is estimated at about 226 million tons, down 5 million tons from 1978/79 (table 1). Seed, industrial, and food use is estimated to be unchanged from a year earlier at 78 million tons. Feed use will be maintained at the previous year level of 126 million tons if stocks decrease 18 million tons. Net imports are expected to total a record 30.5 million tons, but about 7 million lower during February-June than expected prior to the suspension of shipments by the United States. Dockage-waste is estimated at 22 million tons or

12-13 percent of production. Harvesting difficulties in the winter and spring grain areas of European USSR and major spring grain areas east of the

Volga River were responsible for the slight increase in the dockage-waste estimate over the 1978 crop. (Michael D. Zahn)

## FEED SUPPLIES TIGHTEN IN 1979/80

Total livestock feed supplies, as measured in terms of feed units or oat equivalents, are expected to be down 1.5 percent in 1979/80 from a year earlier, assuming the Soviets had 18 million tons of stocks that were used during the year. If those same supplies were expressed in terms of digestible protein, they would be unchanged from 1978/79. The ability of Soviet livestock feeders to maintain high feeding levels despite a significantly reduced grain crop in 1979, is the result of an estimated 18-million-ton draw-down of stocks (although, in fact, the USSR does not publish stock figures) from the 1978 season and record grain imports. In terms of oat equivalents and digestible protein on a per animal unit basis, feed supplies are down 2.7 percent and 1.0 percent, respectively.

The drought in May and June cut severely into roughage production in European USSR, particularly haylage and silage. Total hay production in 1979 was not sharply reduced from 1978 levels because of excellent results in Siberia and Kazakhstan. As of November 1, 1979, roughage feed supplies on state and collective farms in the USSR, stood as follows: Hay—47 million tons, haylage—49 million tons, silage—176 million tons, and potatoes, feedroots and melons—20 million tons.<sup>9</sup>

Total supplies are less than last year and in some areas of the country supplies are considerably less. The roughage situation is poorer than a year earlier in Lithuania, Belorussia, Uzbekistan and in a number of oblasts of the RSFSR and the Ukraine, although feed supplies for wintering of livestock were larger in Kazakhstan, Moldavia, Latvia, Armenia, and Estonia.<sup>10</sup>

Overall however, the forage situation was critical. On March 17, 1980, for example, the Soviet newspaper *Ekonomicheskaya gazeta* emphasized the need to use available fodder efficiently "so that there is enough of it until animals are driven out to pasture." A Soviet radio report in mid-March noted that the wintering of animals "has been difficult" with only "just enough fodder" to preserve herds. In fact, some herd reductions appear to have taken place in any case (see p. 6).

Roughages and pasture compose 60 percent of Soviet livestock feed supplies and concentrates

make up the remainder. Over the last 20 years, concentrates have played an increasingly important role in the expansion of the livestock sector and improved feeding efficiency. Total concentrates (plant origin only, by definition from the USSR Central Statistical Administration) increased over 40 percent during 1970-78 and reached 145.9 million tons in 1978. The original plan goals for 1980 called for concentrates fed to livestock and poultry to reach 149.0 million tons; however, concentrate feed use would have to rise well above 149.0 million tons to meet livestock production goals.

The high cost of feeding livestock in the USSR is directly related to unbalanced rations, protein deficiencies, and inadequate amino acid structures in those rations. To correct some of these problems, the Soviets have increased the quantity of processed grain and boosted mixed feed production.

Mixed feed production in 1979 grew 4 million tons over 1978 to 60 million tons. Production since 1970 has grown over 150 percent and further increases are scheduled; however, production has been falling behind plan. Plan goals for 1979 were 68 million tons or 8 million tons above output in that year. Production goals for 1980 and 1985 have been set at 77 million tons and 100 million tons, respectively.

The U.S. trade restrictions imposed on the USSR in early January will reduce the quantity of grain for feed in 1979/80 to levels below estimated requirements. Grain for feed in 1979/80, is estimated (as of April) at about 126 million tons (table 1). This could reduce substantially the quantity of grain fed to livestock during March-June to below planned levels for that period, and therefore, create a more serious problem for livestock feeders than would appear by examining feed availabilities on an annual basis.

Decreased feed availability during late winter and early spring will put serious pressure on the livestock economy and cause some adjustments in feed demand. Livestock slaughter could increase in the first half of 1980, thereby raising meat output and reducing feed demand at the same time. Feed supplies and demand for the second half of 1980 will be largely shaped by the size of the 1980 grain crop, pasture conditions this summer, and forage supplies in the late summer and early fall. (Michael D. Zahn)

<sup>9</sup>*Pravda* November 16, 1979, p. 1.

<sup>10</sup>*Ekonomika selskovo khozyaistva* No. 1 (1979), p. 6.



# LIVESTOCK PRODUCTION RESULTS MIXED

## Livestock Inventories

Livestock inventories on January 1, 1980, recorded small gains for most categories of livestock (table 3). Cattle, cow, hog, and most probably poultry numbers reached record levels. Sheep and goats also gained but remained below record January 1, 1975, inventories.

The total cattle inventory, at 115 million head, was up 0.8 percent, or 914,000 head above a year earlier. Cows were up 0.7 percent, or 284,000 head. Hog inventories, at 73.7 million head, were up slightly with a gain of 216,000 head. The gain in cattle and hog inventories occurred in the socialized sector. However, the private sector accounted for the largest gain in sheep and goat numbers. Total poultry inventories on January 1 were not reported in the Soviet press, but it is estimated that they reached close to a billion

birds. Most of the gain probably occurred in the socialized sector.

The reduced 1979 grain and forage crops caused no unusually drastic diversion from normal inventory patterns for livestock categories in the second half of 1979. This situation contrasts with conditions in 1975. That year, an acute shortage of grain and feed supplies caused by severe drought conditions forced the Soviets to carry out distress slaughter (mainly of hogs and poultry), beginning in July and August 1975, to adjust demand to feed supplies.

In 1979, Soviet policy statements in the face of the reduced grain and forage crops suggested that livestock inventories were to be maintained. For example, General Secretary Brezhnev stated on September 21, 1979, that despite difficulties encountered in the farming areas because of unfavorable weather conditions, livestock numbers should be

## USSR Cattle Numbers Now Larger than U.S.

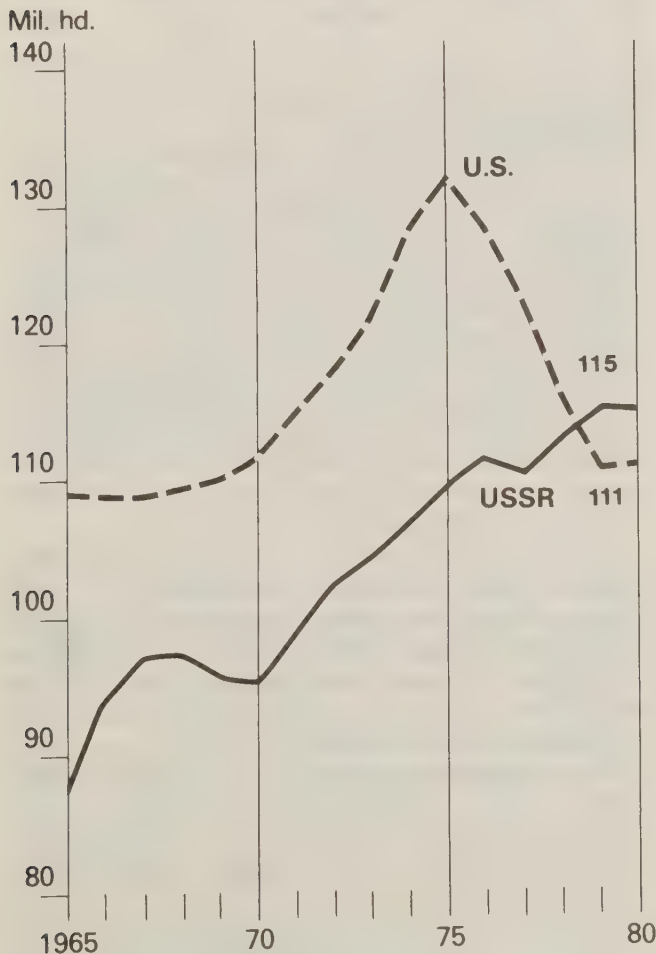


Figure 2

## USSR Hog Numbers Exceed U.S.

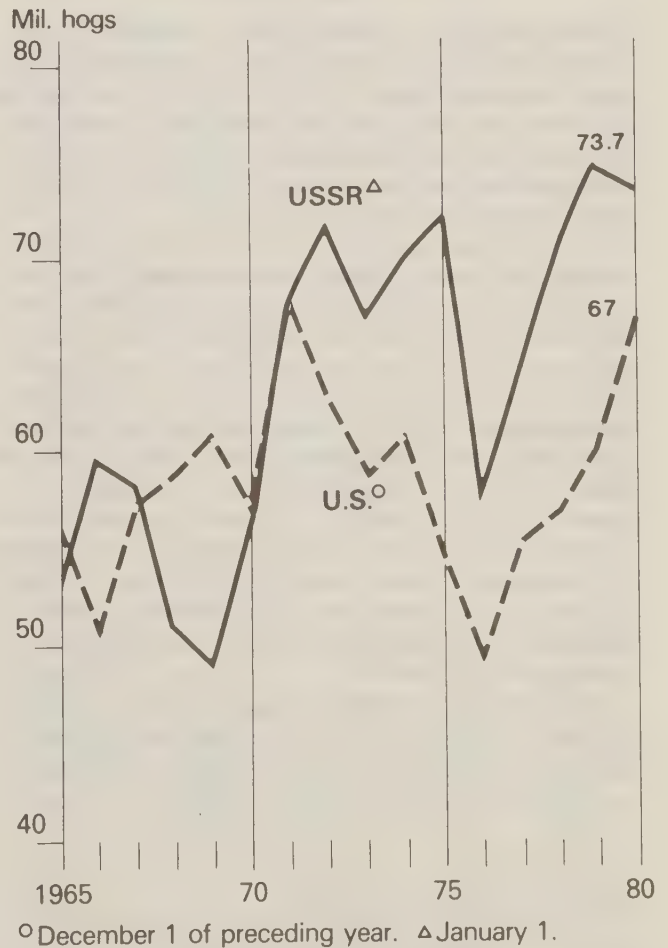


Figure 3

maintained and that any decrease in livestock productivity should not be allowed.<sup>11</sup> Similarly, an editorial in *Izvestiya*, November 1, 1979, stated that it was extremely important that herds be maintained and increased wherever possible.

The effects of the tight feed situation—brought about by the poor grain and forage crops in 1979 and U.S. suspension of sales—were however, reflected with higher-than-normal drawdown of livestock, mainly hogs, in January and February 1980 (table 4). In addition, marketings of larger numbers of hogs and cattle at lighter weights during January-February 1980, compared to the same periods in 1978 and 1979, indicated that herd adjustments were taking place.

Livestock inventories on January 1, 1981 depend largely on (1) how long U.S. trade restrictions are maintained on exports of agricultural commodities to the USSR; (2) the extent other grain exporting nations cooperate with the United States, and, most importantly, (3) on the outcome of the 1980 Soviet grain crop.

#### Meat

Meat production (slaughter weight) in 1979, totaling 15.5 million tons (table 7) remained at the same level as a year earlier. Output was below plan, however, by 1.1 million tons. Beef, pork, mutton, and lamb output probably declined somewhat, whereas poultry meat output probably reached a record level.

Government purchases of meat (liveweight) totaled 16.7 million tons, down almost 2 percent from a year earlier.<sup>12</sup> The average weight of cattle and hogs sold to the government in 1979 was not included in the plan fulfillment report. However, January-November data indicated that the average weight of cattle sold to the government from the socialized sector was 362 kilograms, down 2 kilograms from the January-November 1978 average. The average weight of hogs delivered in this same period in 1979 was 103 kilograms, the same as a year earlier. Marketings of cattle and hogs during January-November 1979 were each down 1 percent from a year earlier.

Food industry output of meat in 1979 totaled 9.5 million tons, the same as a year earlier, but 4 percent less than in 1975. Sausage output totaled 3.1 million tons. Retail sales of meat and meat

#### Meat Production

Million tons

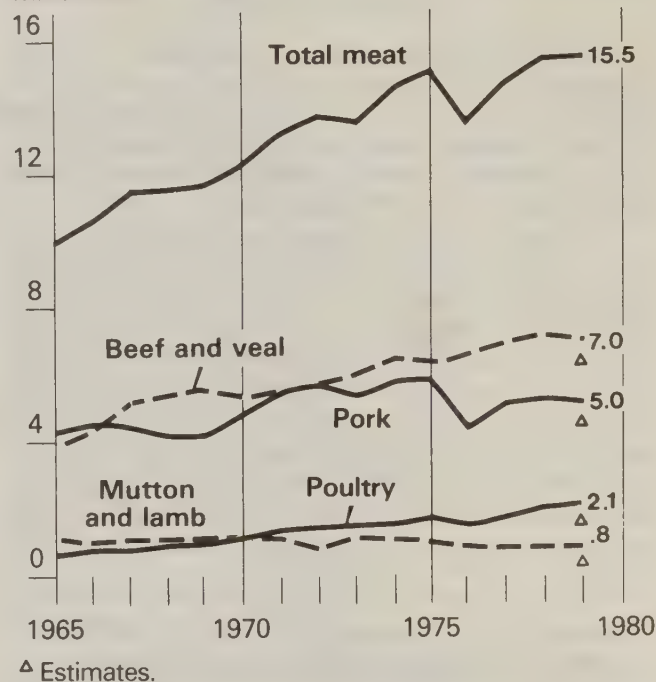


Figure 4

products in state and cooperative trade outlets were up 2 percent from 1978.

Planned Soviet meat output for 1980 was recently revised downward to 15.7 million tons.<sup>13</sup> According to the original tenth five-year plan, the 1980 plan for meat output was set at 17.3 million tons.<sup>14</sup> The downward revision, which apparently was made before the effects of the U.S. trade restrictions were assessed, represented a more realistic appraisal of current meat production potential and offered the Soviets better leverage in approaching the new plan for the final year of the 1976-80 plan period. In the face of the U.S. trade restrictions, however, even the modified target level is in doubt at this time.

In 1978, total imports of meat and meat products (table 8), at about 184,000 tons, dropped 70 percent below record imports in 1977, and returned generally to the level prevailing prior to 1974. Exports of meat and meat products, on the other hand, rose 17 percent to 38,600 tons, a level consistent with current trends.

The largest drop in imports occurred in fresh, frozen red meat, which fell from 438,000 tons in 1977 to 84,000 tons in 1978—the lowest level since 1973. Fresh, frozen poultry meat imports also

<sup>11</sup>*Pravda*, September 22, 1979.

<sup>12</sup>Government purchases of meat (carcass weight) totaled 10.4 million tons, down 3 percent from a year earlier.

<sup>13</sup>*Ekonomika selskovo khozyaistva*, No. 1, 1980, p. 5.

<sup>14</sup>*Ekonomika selskovo khozyaistva*, No. 8, 1976, p. 6.



dropped sharply in 1978 to 51,500 tons from 1977's record of 121,000 tons. As in previous years, Hungary was the major supplier of fresh, frozen poultry meat. Canned meat imports in 1978 fell 18 percent and imports of canned meat with vegetables dropped 34 percent.

USSR exports of fresh, frozen meat in 1978 totaled 9,500 tons, up almost 16 percent above a year earlier. Canned meat exports rose by 11 percent, the bulk of which went to Cuba.

USSR meat and meat product imports in 1979 are estimated at about 400,000 tons, up substantially from the low volume in 1978. Major suppliers of beef and mutton most probably were the European Community (EC), New Zealand, Argentina, and Australia. Major suppliers of poultry meat probably included the EC and Eastern Europe.

Increased meat imports in 1980 represent one Soviet reaction to the expected impact of the sales suspension. Although world meat supplies are tight, the Soviets—if they are willing to pay a high enough premium—could boost meat imports.

Per capita meat (including fats) consumption in the USSR in 1978 totaled 57 kilograms, (table 22) up 1 kilogram from a year earlier, and probably remained at the same level in 1979. The 1980 plan calls for meat consumption to reach 63 kilograms, but based on current meat situation and prospects, attainment of that goal is not foreseen.

Per capita meat consumption has grown slowly, despite efforts to raise the protein level in Soviet diets through boosting meat output. However, Soviet meat producers have continually failed to meet rising demand. Per capita consumption has gained only 7 kilograms since 1971 and continues to be far below the scientific norm established by Soviet nutritionists of 82 kilograms<sup>15</sup> per year.

### Milk and Dairy Products

USSR milk production in 1979, totaling 93.3 million tons, was down 1 percent from a year earlier and 5.3 million tons below plan. Although cow numbers were at record levels, average milk yields per cow were down by about 3 percent. Government purchases of milk, at 59 million tons, were almost 2 percent below purchases in 1978 and close to 8 percent below plan.

<sup>15</sup>An article entitled "Novoe razvitii myasnovo skotovodstva," *Novoe o zhiznii nauke, tekhniki, Seriya sel'skoe khozyaistvo*, No. 6, 1978 also reported the scientific norm as 95 kilograms.

Factory output of butter reached 1.3 million tons, down almost 8 percent from a year earlier and 13 percent below plan. Butter remains in tight supply in the Soviet Union. Industrial output of whole milk products, at 24.9 million tons, was up slightly from 1978 and met the plan. In 1978, the USSR imported close to 39,000 tons of butter, compared to the nearly 76,000 tons imported in 1977. Dry milk and cream imports dropped by 13,000 tons to 27,000 tons.

Per capita consumption of milk and milk products (including milk equivalent of butter) in 1979 probably fell somewhat below the 320 kilogram level in 1978 (table 22). Based upon the current situation and prospects, the 1980 goal of 335 kilograms of milk per capita is out of reach.

The original 1980 milk output goal of 102 million tons has been revised downward to 95 million. However, because of poor roughage supplies in 1979/80, the reduced 1979 grain crop, U.S. trade restrictions, and the declining performance in the dairy sector over the past 2 years, milk output will probably fall well below the revised 1980 goal.

### Eggs

Egg production in the USSR in 1979 reached a record 65.6 billion eggs, up nearly 2 percent from a year earlier and 1 percent above plan. Government purchases of eggs, at 41 billion, were up 5 percent. Based on the relatively fast growth in egg production in the first 4 years of the current five-year plan, the original 1980 egg production goal has been revised upward 1 percent to 67.6 billion. However, because of the tight grain situation expected through at least mid-1980, egg output in 1980 may be near to or slightly above the 1979 level.

In 1978, the USSR imported 680 million eggs (in shells), down 2 percent from a year earlier. Major suppliers were Poland, Hungary, Finland, and Bulgaria. The volume of imports from Poland rose a sharp 72 percent, while imports from Bulgaria and Finland dropped an average of about one-third. Imports from Hungary also fell but not as drastically.

Consumption of eggs in 1978 reached a record 230 eggs per capita, up 4 percent from a year earlier (table 22). Consumption in 1979 undoubtedly exceeded the 1978 level to a record high. Since the 1980 plan calling for 225 eggs per person was exceeded in 1978 and most probably in 1979, it is possible that some upward revision of the 1980 plan has been made. Despite the fast growth in egg consumption in the last 3 years, the level consumed is still far below the Soviet scientific norm set at 292 eggs per capita.

## Wool

USSR wool production in 1979 totaled a record 472,300 tons (greasy basis), up 1 percent from a year earlier and 8 percent larger than 1971-75 average output. The original 1980 production plan calling for 515,000 tons of wool (greasy basis) has been revised downward to a more realistic level of 476,000 tons.

Imports of wool (scoured) in 1978 reached 127,900 tons, up 13 percent from a year earlier. Major suppliers were Australia (which supplied

almost half of total imports), Argentina, New Zealand, and the Mongolian People's Republic.

Wool exports, at 1,800 tons, were down by over a quarter from a year earlier. Major markets were Great Britain, Czechoslovakia, and Vietnam. Bulgaria, which imported about 430 tons from the USSR in 1977, bought only 20 tons in 1978.

USSR production of wool cloth in 1979 reached 800 million square meters, about the same as a year earlier. Wool yarn output probably rose somewhat above the 447,000 tons produced in 1978. (*Angel O. Byrne*)

## RECORD COTTON CROP

Cotton production in the USSR in 1979 totaled a record 9.16 million tons (raw basis), 4 percent above plan and close to 5 percent above the previous record in 1977 (table 15). Of the total, long-staple cotton accounted for a record 885,000 tons. The 3,090,000 hectares planted to cotton was also a record, up 52,000 from a year earlier.

Adverse spring weather forced replanting of large areas, although the replanted area was not as large as that necessitated in 1978. Because of the late plantings and cooler summer temperatures, cotton development and ripening was delayed—up to a month in some areas. However, a positive factor for the late-planted 1979 crop—as compared with the 1978 late-planted crop—was that the earlier-than-usual fall freeze that contributed to the reduction of the 1978 crop was not repeated. Above-normal warm and dry weather beginning in mid-October and lasting through most of November and early December enhanced cotton development and ripening beyond the usual period. Thus, cotton harvesting and sales to the government—which began very slowly and by mid-October were the slowest recorded in recent years—picked up dramatically beginning about mid-November and ended with the record harvest.

Based on an estimated 31.2-percent ginning rate, cotton lint outturn from the 1979 crop will total a record 2.86 million tons, or 13.1 million bales—up by over 800,000 bales from the 1978 crop. With this record output, USSR exports in 1979/80 (year beginning August) have the potential to exceed last season's 810,000, although early-season sales have lagged considerably.

At the end of January 1980, prices for Soviet cotton in Osaka, Japan were slightly higher (89 cents per lb. CIF) than those for U.S. or Mexican cotton (about 87.5 cents per lb. CIF). Thus, in spite of a record crop, the USSR has not been an aggressive competitor on the international market. Exports in 1979/80 are estimated at about 850,000 tons, up by about 5 percent. It is

estimated that cotton lint exports in 1978/79 were somewhat below those of 1977/78.

In calendar 1978, USSR exports of cotton lint reached 858,000 tons, down 12 percent from the year-earlier record. As in the past, East European countries received the bulk of total exports. Japan, an important market for Soviet cotton lint, reduced its imports 23 percent in 1978—following a sharp boost in 1977. France, which decreased its purchases by almost 3 percent, was nevertheless the single largest Western importer in 1978—having replaced Japan as the major buyer of Soviet cotton lint.

USSR imports of cotton lint in 1978 dropped a sharp 31 percent to 65,000 tons—the lowest level since 1956. Egypt, traditionally the USSR's largest supplier, drastically cut its exports beginning in 1976, and was not reported as a supplier in 1978.<sup>16</sup> Major suppliers were Iran, Syria, and Afghanistan.

The current 1980 plan for cotton production (raw basis) calls for 9.1 million tons. With more favorable weather—especially in the fall—and some expected expansion in the cotton area, the 1980 plan goal could easily be reached and exceeded.

Production of cotton cloth in 1979 totaled 7 billion square meters, the same as a year earlier. Cotton yarn output has not been reported but may have exceeded somewhat the 1.6 million tons produced in 1978. The USSR exported 204 million linear meters of cotton cloth in calendar 1978, down 13 percent from a year earlier and the lowest volume since 1974. Imports also dropped by 2 percent. Cotton yarn exports, at 900,000 tons, were down a sharp 18 percent to the lowest level since 1960. Imports, which dropped almost 9 percent from a year earlier, were at a near record 32,000 tons. (*Angel O. Byrne*)

<sup>16</sup> *Vneshnaya trgovlya SSSR v 1978 godu*, pp. 72 and 251.



## OILSEED PROBLEMS CONTINUE

The USSR's production of the three major oilseeds—sunflowerseed, cottonseed, and soybeans—showed mixed results in 1979.

Output of major oilseeds, USSR, 1971-1979

Year	Sunflower seed	Cotton seed	Soybeans
---1,000 metric tons---			
1971 .....	5,663	3,691	535
1972 .....	5,048	4,085	258
1973 .....	7,385	4,363	424
1974 .....	6,784	4,531	360
1975 .....	4,990	4,807	780
1976 .....	5,277	4,511	480
1977 .....	5,904	4,693	540
1978 .....	5,333	4,804	634
1979 .....	5,370	(5,100)	(600)

( ) = estimate.

Sunflowerseed output totaled 5.37 million tons, more than 2 million tons (table 15) below plan and unchanged from the 1978 crop of 5.33 million tons. The sunflowerseed area, 4.3 million hectares, was down 5 percent from 1978. A 200,000-ton decrease in RSFSR production was offset by an increase in Ukrainian output. While the 1978 and 1979 crops were similar in magnitude, they suffered from distinctly different problems. The 1978 crop suffered from a cold, wet summer and late harvesting. Under these conditions, the Soviet open pollinated sunflower varieties were highly susceptible to a multitude of diseases such as sclerotinia, grey rot, white rot, and downy mildew, in addition to the parasitic weed, broom rape. Because many of these diseases are soil-borne, extremely short crop rotations (3-4 years as opposed to a recommended 8-10 years) aggravate the disease problems.

Unlike the 1978 sunflower crop, the 1979 crop lacked adequate moisture. The *sukhoveys* that swept across European USSR in May and June cut through the center of the production area. Approximately 80 percent of the sunflower area was adversely affected by the drought conditions.<sup>17</sup>

The Soviets have cited other problems in raising the output of sunflowerseed, including deteriorating seed quality, inadequate supplies of

fertilizers, herbicides and defoliants<sup>18</sup> Also the Soviets claim that many farmers are not allocating the best land to sunflowers despite what appears to be a considerable incentive to cultivate sunflowers.<sup>19</sup> Should the Soviets switch to a hybrid program over the next 10 years, some of the disease problems could be mitigated, but many of the other difficulties could remain.

The poor crops in both 1978 and 1979 have retarded the Soviets' efforts to raise vegetable oil output because of the dominant role sunflowerseed plays in the vegetable oil situation. Soviet sunflowerseeds have a high oil content (47 percent in 1978) and contribute about 65 percent of total vegetable oil output. Plan goals for 1980 call for sunflowerseed production to be 7.7 million tons. Considering the production performance over the last several years, the Soviets should fall well short of this goal, as no increase in area is planned.

Cottonseed and soybean production is estimated at 5.1 million tons, and 600,000 tons respectively. Cottonseed output is expected to have been up sharply in line with the record cotton harvest of 9.16 million tons. Soybeans are estimated at about the 1978 level due to some production difficulties in the major growing region of the Far East.

Vegetable oil production in 1979 fell to 2.8 million tons, down from 2.97 million produced in 1978, (table 10) as a direct result of Soviet problems in raising domestic oilseed output. Oil production would have been worse were it not for large soybean imports, particularly from the United States. Since 1973 and 1974 when the USSR produced record quantities of sunflowerseeds, imported soybeans have played an increasingly important role. During 1975-78, the Soviets imported an average of 1.1 million tons of soybeans annually. Such quantities represent about 200,000 tons of vegetable oil or about 7 percent of the USSR's total vegetable oil output that period.

Under the U.S.-USSR Agreement on Agricultural Cooperation, the Soviets had been reporting monthly industrial vegetable oil output statistics (table 11). Beginning with January 1979 these data were omitted. Some data were acquired for March-May which reflected a deteriorating production situation, but the Soviets have failed to provide monthly data after May. January and February

<sup>17</sup>Yu. P. Buryakov and V. F. Abramov, "Podsolnechnik: itogi 1979 goda i zadachi v zavershayvshchem godu pyatiletki," *Zernovoye khozyaistvo* No. 2 (1980), p. 13.

<sup>18</sup>*Selskaya zhizn*, June 10, 1979 p. 1, and *Lzvestia*, July 10, 1979, p. 2.

<sup>19</sup>USSR Agricultural Situation: Review of 1978 and Outlook for 1979, p. 30.

1980 data have been published in *Ekonomicheskaya gazeta*.

In 1979/80, oilseed meal production (soybean meal equivalent) was almost evenly divided between sunflower, cottonseed, and soybean meal. These three meals make up over 98 percent of oil meal output. Prior to 1975/76, soybean meal made up only 12 percent of total meal output and was concentrated in the soybean production areas of the Soviet Far East—6000 kilometers east of the major livestock feeding regions of European USSR.

The USSR has a demonstrated annual crushing capacity of nearly 10 million tons of oilseeds. Sunflowerseed, cottonseed, and soybean crushings make up more than 95 percent of this capacity with cottonseed alone making up nearly 45 percent of the total oilseed crush.<sup>20</sup> In 1977 the USSR processed a record quantity of oilseeds totaling 9.97 million tons. In years of poor sunflowerseed crops, the excess capacity for crushing sunflowers (located in European areas of the USSR) is used to process imported soybeans.

The USSR currently operates four specialized (straight-line) soybean plants with rated capacity of 548,000 tons; reportedly however, a maximum of only 399,000 tons of beans have ever been processed in these plants in any one year.<sup>21</sup> The remaining soybean crushings are conducted in non-specialized plants, primarily designed for sunflowerseeds. However, the quality of the meal produced in these plants is reduced from optimal levels attainable in straight-line soybean plants. Consequently, crushing losses are higher, oil output is lower, and meal output is higher in oil content and therefore goes out of condition more

quickly. Because of the lack of toasters, this meal still contains high quantities of the enzyme urease, which generally reduces protein availability.

The other oilseed meals available to the Soviets (sunflowerseed and cottonseed) are deficient in the essential amino acids lysine and tryptophan and are not available in large enough quantities to fully compensate for amino acid deficiencies in grain fed to nonruminant livestock. Cottonseed meal, concentrated in Central Asia, contains gossypol, a toxic substance, which limits its use, particularly as a poultry or hog feed supplement.

Per capita consumption of vegetable oil in 1978 was 8.2 kilograms, slightly above 1977 but 10 percent below the scientific consumption norm set by the USSR Academy of Sciences (table 22).

The Soviets will continue to strive to increase both vegetable oil production for human consumption and high protein meals for the mixed feed industry. As the mixed feed industry expands, soybean meal will have to play an important role. In 1979, soybean meal was planned to make up 24 percent of all oilseed meal production. The inherent deficiencies of the other dominant meals, cottonseed and sunflowerseed, enhance the role of soybeans as a partial solution to the protein deficit and poor structure of Soviet livestock rations. (*Michael D. Zahn*)

<sup>20</sup>"Zadachi maslo-zhirovoy promyshlennosti v reshenii problemy kormovogo belka," *Maslo-zhirovaya promyshlennost* No. 2 (1980), p. 2.

<sup>21</sup>G. K. Penkov, "Soya—perspektivnaya maslichnaya kultura," *Maslo-zhirovaya promyshlennost* No. 5 (1979), p. 15.

## SUGARBEET CROP DISAPPOINTING

Sugarbeet production in 1979, at 76 MMT, fell a sharp 19 percent below 1978 output and was 22 percent below plan (table 15). This about equals the 1971-75 average and is the worst crop performance since 1975 (66 MMT). Sugarbeets were sown on 3.74 million hectares, about half a percent less than in 1978.

The tenth five-year plan (1976-80) called for the sugarbeet area to stabilize at 3.6 million hectares; however, during 1976-79, the area averaged 3.75 million hectares.

Sugarbeet yields for 1979 were estimated at 20.3 tons per hectare, an 18 percent decline from 1978, but 12 percent higher than the record low of 1975. Last year's yield is well below the 1976-78 average of 25.4 tons per hectare and below the 1971-75 average of 21.7 tons per hectare.

Sugarbeet production and yields were severely affected by late spring plantings, hot weather during the growing season, and extremely cold weather late in the season (from mid-October to early November).

Recently published data<sup>22</sup> indicate that state procurements of frozen sugarbeets have been a serious problem. In 1976, 42 percent of total sugarbeets were procured in a frozen condition. This proportion decreased to 13 percent in 1977 and to only 6 percent in 1978. On an individual republic level, the share of frozen beets has been as high as 47 percent in the Ukraine in 1976. Frozen sugarbeets loose sugar content, and as

<sup>22</sup>*Sakharnaya promyshlennost*, No. 10, 1979, p. 55.



Frozen sugarbeets procured, 1976-78

Republic	Total Procurement			Procured Frozen Sugarbeets		
	1976	1977	1978	1976	1977	1978
	--Thousand tons--					
USSR .....	85,142	84,881	80,078	35,935	10,926	4,548
Ukraine .....	51,211	50,554	47,600	23,943	7,304	472
RSFSR .....	24,659	25,828	23,367	9,658	2,930	4,069
Moldavia .....	3,651	2,782	2,776	1,367	660	--

they thaw, losses increase due to rotting. Despite the reduction in frozen beet procurements from 1976 to 1978, frozen beets could have been a significant problem in 1979. Any delay in processing beets results in lowered sugar content. Storage and transportation problems may also have had a considerable impact in 1979. The cold weather probably aggravated the apparent back-up of sugarbeets on farms and prevented timely processing.

As of October 15, 94 percent of the RSFSR planned sugarbeet area had been harvested but as many as 5 million tons of sugarbeets were awaiting transport to processing facilities. This backlog was subsequently reduced to 3.8 million tons.<sup>23</sup> It was approximately at this time that cold snaps began. This situation may have resulted in frozen procured beets reaching 20-30 percent of estimated RSFSR procurements, based on a 19.6 MMT production figure, and it is likely that this experience was repeated in the Ukraine and Moldavia.

Harvesting delays occurred because of problems involving equipment availability. Other delays resulted from poor organization at loading facilities. There is evidence that processing plants were far exceeding the 110-115 day processing season recommended in the tenth five-year plan. Also, reports indicated that in some places sugarbeets were stored poorly, uncovered, and not treated with lime to retard spoilage.<sup>24</sup> All these factors point to increased losses.

Calendar year 1979 sugar output from all sources totaled 10.6 million tons, down 13 percent from 1978. Beet sugar output may have reached somewhat over 7 million tons, compared with 8.6 million tons in 1978. Sugarbeet extraction rates

have not been published since 1975; at that time the rate was 11.69 percent. These rates had been declining and could have been considerably lower in 1979.

Since 1975, the USSR has imported an average of approximately 4 MMT of sugar each year.<sup>25</sup> Over 90 percent of the imported sugar originated in Cuba. Since 1975, an estimated 60 percent of Cuban exports were destined to the USSR and virtually all the export was raw cane. A production shortfall in both the Soviet Union and Cuba in the 1979/80 crop year will probably force the USSR to import larger amounts of sugar from other sources and more refined sugar. The Soviets have already purchased 3.8<sup>26</sup> MMT of raw sugar, 3 percent less than 1978 and 11 percent less than 1977. This probably reflects Cuban problems in meeting the Soviets' needs. In recent years the USSR has imported sugar from Brazil and the Philippines. Other previous suppliers include: Australia, Western Europe, the Dominican Republic, Poland, and Czechoslovakia.

USSR per capita consumption of sugar reached 43 kilograms in 1978, up 2 percent from 1977, and is planned to reach 50 kilograms by 1980 (table 22). To meet per capita consumption goals, sugar imports will have to be increased.

The 1980 plan calls for sugarbeet production to reach 98.4 MMT, or about 1.5 percent higher than the record 1976 crop. The 1976-80 average annual sugarbeet production goal is 96.6 MMT; however, the current 4-year average is only 90.6 MMT. With more favorable weather, it is possible—though unlikely—that the 1980 goal could be reached. The 5-year average goal appears to be unattainable. (Mary Ponomarenko)

<sup>23</sup>*Sovetskaya Rossiya*, October 18, 1979, p. 1.

<sup>24</sup>*Izvestia*, October 10, 1979, p. 1.

<sup>25</sup>On a refined sugar basis, with refined sugar equaling 92 percent of raw sugar.

<sup>26</sup>*Ekonomicheskaya gazeta* No. 13, March, 1980.

## POTATOES UP, VEGETABLES DOWN, FRUIT PROBABLY UNCHANGED

Potato production in 1979 reached 90.3 million tons, up 5 percent from a year earlier (table 15). The area planted—which has gradually decreased since the sharp 10 percent drop in 1976—fell again in 1979 by 1 percent to 6,966,000 hectares. This area was the smallest in the past 40 years.

Despite the cutbacks in area in the past 4 years, potato production has remained relatively high because of good yields. In 1979, yields rose to a near-record 130 centners per hectare, only about 4 percent less than record yields of 1973, when the potato area totaled a little over 8 million hectares.

Per capita consumption of potatoes in 1979 probably remained at about the same 120-kilogram level as a year earlier (table 22)—despite efforts in the past several years to reduce carbohydrate intake and boost protein intake. With the continuing slow growth in meat output, it is not likely that potato consumption in the USSR will decline in the next several years to approach the established nutritional norm of 97 kilograms. Similarly, per capita potato consumption in 1980 will probably remain above the plan target of 115 kilograms.

With the improved 1979 potato crop, availability of potatoes for feed in 1979/80 is expected to reach the highest level in the past 4 years. Estimated availability, at about 26 million tons, should help ease somewhat the tight feed grain and forage situation expected in 1979/80.

The 1979 vegetable crop, totaling 25.8 million tons (table 15), was down nearly 8 percent from a year earlier. The vegetable area reached a record 1,654,000 hectares but yields were down about 8 percent because of unfavorable weather in some growing areas. The 1980 vegetable output plan, which originally called for 30.3 million tons, has been revised downward to 28.4 million tons. This reduction represents a more realistic appraisal of vegetable production potential.

Data on total vegetable output by type continue to be sparse. However, production of

select vegetables by type in the socialized sector—which produces about 70 percent of the total—has been published for certain years. Accordingly, 1978 data indicate that output of onions, garlic, cabbage, and tomatoes gained sharply that year, while cucumbers, table beets, and carrots declined. Production of some vegetables by type in the socialized sector are shown below:

USSR imports of fresh vegetables (excluding potatoes) in 1978 totaled 182,000 tons, down 5 percent from a year earlier. Traditional suppliers were Bulgaria, Egypt, and Romania. Imports from Bulgaria and Egypt dropped 8 percent and 21 percent, respectively, while imports from Romania more than doubled in volume. Fresh tomato imports rose 11 percent from a year earlier, whereas onion imports fell about 2 percent. Imports of canned vegetables continued to expand in 1978, reaching a record 956 million cans (standard unit weight). Major suppliers were Hungary, Bulgaria, and Romania. USSR fresh vegetable imports in 1979 totaled 147,100 tons, down 19 percent from 1978.

Per capita consumption of vegetables (including melons) in 1979 probably fell below the 90-kilogram level of 1978 (table 22). The 1980 plan calls for 113 kilograms per capita. Based on past performance, this goal appears out of reach. It is also far below the scientific norm of 146 kilograms per year.

Fruit production (including grapes) was not included in the USSR 1979 plan fulfillment report. It is probable, however, that output in 1979 gained little from the year-earlier level of 14.4 million tons. This can be inferred from the downward revision in the 1980 plan, from 19.1 million to 16.2 million tons. However, attainment of the new 1980 goal appears doubtful at this juncture.

USSR selected vegetable output by type,  
socialized sector, 1970, 1976–1978

Vegetables	1970	1976	1977	1978
---1,000 metric tons---				
Cabbage .....	5,089	6,798	5,637	7,177
Tomatoes .....	3,064	4,637	4,172	5,046
Onions .....	707	1,135	1,016	1,386
Table beets .....	791	1,396	1,615	1,459
Carrots .....	1,002	1,369	1,442	1,512
Cucumbers .....	1,139	867	1,026	811
Garlic .....	n.a.	n.a.	17	23

n.a. = not available.

USSR: Fruit Output, 1965, 1970–1978

Year	Grapes	Citrus	Stone fruits	Pome fruits and berries
---1,000 metric tons---				
1965 .....	3,723	34	1,470	2,690
1970 .....	4,011	137	1,511	5,670
1971 .....	4,467	38	1,585	5,839
1972 .....	2,786	52	1,227	5,178
1973 .....	4,583	54	1,862	6,496
1974 .....	4,608	122	1,771	5,579
1975 .....	5,400	154	1,490	6,748
1976 .....	5,442	128	1,739	7,530
1977 .....	4,255	226	2,038	8,337
1978 .....	5,500	195	1,587	6,689



Of total fruit output in 1978, pome fruits and berries accounted for the largest share—despite a 20 percent decline in output (table 15). Grapes, which increased almost a third, accounted for the bulk of the remainder. Stone fruits declined 22 percent and citrus fruits fell almost 14 percent in 1978 from a year earlier. Production of some selected fruits in the USSR is shown on page 12.

Soviet imports of fresh fruit in 1979 totaled a record 907,000 tons, up 7 percent from a year earlier. In 1978, apples and oranges, mainly from Hungary and Morocco, accounted for almost three-quarters of the total. Orange imports dropped 11 percent in 1978 whereas imports of apples rose 6 percent. Mandarins accounted for the largest percentage gain in fresh fruit imports. Imports of

fresh lemons from the United States totaled 12 million tons, about the same as in 1977. Soviet imports of dried fruit in 1978 reached 114,000 tons, up slightly from a year earlier. Raisins and dates primarily from Afghanistan and Iraq, respectively—made up the bulk of these imports. Soviet imports of selected fresh fruit in 1978 are shown below:

Per capita consumption of fresh fruit and berries in 1978 remained at the same 41-kilogram level as in 1977 (table 22). Consumption in 1979 probably made no gain. The 1980 plan calls for 44 kilograms per capita, a reasonable goal. Once again, however, this level is far below the scientific norm set at 113 kilograms. (*Angel O. Byrne*)

USSR imports of selected fresh fruit,  
1966-70 and 1971-75 averages, 1976-1979 annual <sup>1</sup>

	Total	Apples	Oranges	Lemons	Mandarins	Bananas	Grapes	Pineapple	Other
--1,000 tons--									
1966-70 average .....	582	219	201	54	11	17	46	4	30
1971 .....	691	239	255	58	12	19	69	8	31
1972 .....	808	327	331	56	14	15	29	8	28
1973 .....	828	353	312	49	16	10	58	6	28
1974 .....	901	338	357	82	16	13	60	8	27
1975 .....	860	341	335	79	21	34	23	6	21
1971-75 average .....	818	320	318	65	16	18	48	7	
1976 .....	871	358	319	88	7	25	43	6	29
1977 .....	841	311	335	75	19	37	27	6	31
1978 .....	847	331	299	74	38	38	31	10	26
1979 .....	907	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1980 .....									

<sup>1</sup> All numbers are rounded.

n.a. = not available.

## PRIVATE SECTOR'S SHARE LEVELS OFF

In September 1977, the Soviet leadership issued a decree underlining stronger support for the private sector in order to boost agricultural output. The decree emphasized the importance of the private sector as an additional source for supplementing Soviet food resources. Numerous press articles supporting this decree appeared in 1978 and continued through 1979. Full assessment of the private sector's response is difficult to make, but based on output in the private sector in 1978, the response appears limited. Furthermore, there is little doubt that the private sector suffered more from the effects of the 1979 drought than the socialized sector.

In the past several years, because of continued expansion of agricultural output in the socialized

sector, the private sector's share of total USSR output of most agricultural products has declined. For example, in 1978, the private sector accounted for about 29 percent of total meat output, the same as a year earlier, but in 1970 the private sector's share was 35 percent. Similarly, private plot share of total milk and egg production in 1978 was 29 and 34 percent, respectively, about the same as a year earlier. In 1970, however, the private sector accounted for 36 percent of total milk and 53 percent of total eggs produced.

A similar downward movement has occurred in potato and vegetable production. In 1978, the private sector accounted for 61 percent of total potato output and 30 percent of total vegetable output. The share in vegetable output remained

the same as a year earlier, but the private sector's share of total potato output gained slightly. In both instances, however, the private sector's share of total potato and vegetable output has dropped. In 1970, the private sector accounted for 65 percent of total potato and 38 percent of total vegetable production in the USSR.

Despite the gradual downward trend in the private sector's share, there is no doubt that this sector will remain an important contributor to food supplies and presumably, continue to receive

support from the Soviet leadership.

Private plot production remains an important means to satisfy the food needs of collective and state farm workers, an important additional source of food for urban and isolated areas, and an additional source of income for the collective and state farm family. For example, in 1977, about 25 percent of the income of a collective farm family was from the sale of products produced on the private plot. (*Angel O. Byrne*)

## CAPITAL INVESTMENT

### Major Capital Outlays

Capital investment in the agricultural sector in 1979 totaled 35.3 billion rubles, of which 23.3 billion were from government sources and 12 billion from collective farms. Total investment was up 900 million rubles from a year earlier and 500 million rubles above plan. Capital investment in agriculture accounted for nearly 27 percent of total investments in the economy, compared with 26 percent in 1978. Agriculture's share has remained at essentially this same level since 1974, and should continue stable through at least the end of the current five-year plan.

Construction and restoration of livestock production facilities accounted for a portion of the investments. The pace of investment in this area was somewhat above a year earlier, with the exception of sheep facilities and layer facilities which slowed down. Investments in 1979 resulted in additional shelter for 4.2 million head of cattle, 2.9 million swine, 4.0 million sheep, and 7.6 million layers. Capacity for broiler production was boosted by 80 million head throughput annually, compared to additions of 60 million head in 1978. Nineteen seventy-nine marked at least the third year that broiler capacity has increased at a rapid pace. For 1980, total investment in agriculture is planned at 37 billion rubles. A share of this investment will continue to focus on boosting the Soviet livestock sector. (*Angel O. Byrne*)

### Irrigation and Drainage

In 1979, 7.3 billion rubles were expended on irrigation, drainage, and other land reclamation projects—up 4 percent from a year earlier. Some 700,000 hectares of newly irrigated land were brought into production, 60,000 hectares less than in 1978 and 105,000 hectares short of plan. Irrigation of meadows and pastures accounted for 230,000 hectares. Drainage was carried out on 760,000 hectares, up 12 percent from a year ear-

lier but 220,000 hectares below the planned level. Plans for 1980 call for 756,000 hectares of newly irrigated land to be brought into production and an additional 849,000 hectares to be drained.

In 1978, about 6 percent of the total area seeded to crops (218 million hectares), was on irrigated land. Of the total area seeded to grain, about 3 percent was on irrigated land. Similarly, of the total areas planted to forage crops, sugarbeets, and potatoes and vegetables in 1978, about 8, 5, and 12 percent, respectively, were on irrigated land. All cotton in the USSR is under irrigation.

Output of grain on irrigated land has almost doubled since 1970. In 1978, output rose 14 percent above a year earlier and accounted for 4 percent of total grain output. About 3 percent and 27 percent of total wheat and corn for grain, respectively, were produced on irrigated land in 1978. Similarly, output of sugarbeets, vegetables, and sunflowerseeds on irrigated land accounted for 6, 43, and 1 percent of total output. (*Angel O. Byrne*)

### Farm Machinery

Deliveries of tractors and trucks in 1979 continued to fall below 1976-80 average plan goals, while grain combine deliveries surpassed the plan target.

Tractor deliveries totaled 354,000, 4.5 percent lower than 1978 record deliveries and 6.9 percent below the 1976-80 average plan goal. Deliveries of trucks totaled 266,000, 1.4 percent above 1978 levels and 1.5 percent below average planned goals for 1976-80.

Grain combine deliveries grew to a record 112,000, 1 percent above 1978 deliveries and 4 percent above 1976-80 average plan goals of 108,000. By 1980, grain combine inventories could reach somewhat over 700,000 units, still far short of the 800,000 unit plan goal and the optimal 950,000 to 1 million units.



Agricultural machinery inventories have increased very slowly despite the huge deliveries each year. High scrapping rates (deliveries minus inventory increases during the year divided by inventories at the beginning of the year) are the primary reason for this dilemma. For most major categories of Soviet farm machinery, life expectancies range between 6 and 8 years.<sup>27</sup>

As of January 1, 1979, truck inventories reached 1.52 million units, an increase of 1.3 percent over 1978. Tractor inventories were 2.51 million, 2.3 percent higher. Grain combines increased only 1 percent to 700,000. This slow growth in inventory levels indicates that the scrapping rate for trucks in 1978 was approximately 16.6 percent, tractors—12.8 percent, and grain combines, an estimated 15.0 percent. The 1978 scrapping rates for trucks was 2 percent higher than the estimated rate in 1977, grain combines showed a 1.4-percent increase and the tractor scrapping rate remained the same. (Mary Ponomarenko)

### Agricultural Chemicals

The Soviet chemical industry experienced serious production difficulties in 1979, and as a result, deliveries of important agricultural chemicals were not only well short of plan goals, but below levels attained in the previous year. Mineral fertilizer deliveries, excluding feed additives, were 3 million tons less than in 1978 and 9 million tons below plan (table 12). Feed additive deliveries (urea and feed phosphates) recovered from the depressed levels of 1978 and reached 2.6 million tons—a level still below that achieved in 1976 and 1977.

In the latter half of 1978 the Soviet fertilizer industry began to experience a marked slowdown in production. These difficulties were related both to plant efficiencies and the availability of raw materials. The severe winter of 1978/79 also aggravated the deteriorating performance. For all of 1979, mineral fertilizer production fell 3.6 percent to the lowest level since 1976 and was the first year in at least 25 in which fertilizer production failed to register an increase.

Production totaled 94.5 million tons, well short of the revised 1979 goal of 111.0 million tons (table 13). The original plan goal for 1980 called for 143.0 million tons, but it is clear that in light of the current production difficulties, the Soviets will miss this target. In fact, Soviet statements indicate that the production plan for 1980 has been revised

Quarterly Mineral Fertilizer Production, 1975-79

Year	1st Q	2nd Q	3rd Q	4th Q	Total
--Million tons--					
1975 ....	21.8	22.2	22.0	24.2	90.2
1976 ....	22.3	23.3	22.5	24.1	92.2
1977 ....	23.8	24.4	23.6	25.0	96.8
1978 ....	25.1	25.2	23.7	24.0	98.0
1979 ....	21.7	25.7	23.7	23.4	94.5

downward to 115 million tons, a 20-percent decrease from the original plan goal.

Since 1975 the growth in fertilizer production has slowed dramatically. In the ninth five-year plan (1971-1975) the average annual increase was 10.3 percent, but over the 4 years of the tenth five-year plan this increase has slowed to only 1 percent.

To rectify some of the production shortfalls, the Soviets have vigorously sought modern chemical technology from abroad, and initiated long-term agreements to secure phosphate supplies from foreign suppliers, (see page 19). In 1979 the Soviets added 15.8 million tons of new production capacity, up sharply over the 3 and 4 million ton additions for 1978 and 1977.

The inability of the Soviet fertilizer industry to sustain output growth directly affects the Soviet agricultural sector. By the end of the tenth five-year plan, fertilizer deliveries were to increase by 41.6 million tons over 1975 to 115.0 million tons. However, due to production difficulties, the plan for fertilizer deliveries in 1980 was trimmed. Even if the goal were attained, fertilizer deliveries in 1980 would only reach 88 million tons, an increase of 12 million tons, or 16 percent, over 1979. Assuming that this limited increase was applied to crops proportionally, according to the original plan, it would translate into lost production potentials of about 11 million tons of grain alone, although this impact is moderated by the large year-to-year variability in Soviet grain yields and the carryover of soil nutrients which tend to be higher following drought years.

A second problem area is the fertilizer production mix. The USSR has been unable to raise its output of phosphate relative to nitrogen and potash. Phosphate production is particularly critical since large areas of the USSR's agricultural lands are short of phosphorus. Phosphate promotes rapid plant growth and early maturation, and is therefore especially important in the USSR where the growing season is short.

Certain Soviet soils are highly acidic, thereby restricting plant mineral absorption and limiting the effectiveness of applied fertilizer. The Soviets have calculated that these soils penalize grain

<sup>27</sup>See *USSR Agricultural Situation: Review of 1977 and Outlook for 1978* for a discussion of this problem.

production perhaps as much as 18 million tons.<sup>28</sup> The Soviets have countered with a liming program which will be critical to increase the effectiveness of limited nutrient supplies.

The production of chemical plant protection agents (insecticides, fungicides, herbicides, defoliants, etc.) fell to 475,000 tons (standard units) in 1979, down from 492,000 tons in 1978. The overall production problems in the chemical industry led to the decrease. Plans for 1980 call for 615,000 tons of production with further increases scheduled to reach 700,000-750,000 tons in 1985. Insecticides and herbicides account for approximately two-thirds of the total output. In light of production difficulties, the prospects for

<sup>28</sup>L.A. Lebedeva, "Izvestkovaniye kislykh pochv—odno iz glavnykh uslovy dalneyshevo podyoma proizvoditelnostizemel'deliya v SSSR" *Khimiya v selskom khozyaistve* No. 5 (1979), p. 18.

meeting either the 1980 or 1985 plan goals are slim. (Michael D. Zahn)

Energy and fertilizer raw material production 1970-79

Year	Oil	Coal	Sulfur <sup>1</sup>	Ammonia <sup>2</sup>	Gas
	--Million tons--				BCM
1970 ...	353.0	624.1	5.0	7.6	197.9
1971 ...	377.1	640.9	6.5	8.5	212.4
1972 ...	400.4	655.2	6.8	9.2	221.4
1973 ...	429.0	667.6	7.1	10.2	236.3
1974 ...	458.9	684.5	7.6		260.6
1975 ...	490.8	701.3	8.0	12.0	289.3
1976 ...	519.7	711.5	9.1	12.3	321.0
1977 ...	545.8	722.1	9.7	13.1	346.0
1978 ...	571.5	723.6	10.6	13.9	372.2
1979 ...	586.0	719.0	10.6	n.a.	407.0

<sup>1</sup>Total, estimates from Bureau of Mines, U.S. Department of Interior. <sup>2</sup>Synthetic, NH.

n.a. = not available.

## USSR FOREIGN TRADE

### Overall Trade

In 1979, the value of Soviet foreign trade amounted to about \$122 billion, up from about \$102 billion the previous year.<sup>29</sup>

Exports were valued at about \$64.4 billion, while imports were valued at \$57.6 billion. Export levels increased 19 percent over last year while imports increased at a slower rate.

In 1979, about 56 percent of Soviet trade was with other Socialist countries. Approximately a third of Soviet imports originated in Western industrialized countries, and about 8 percent originated in developing countries.

Developing countries figured more prominently in Soviet exports, receiving about 16 percent, while Western industrialized countries accounted for slightly less than a quarter of Soviet exports. In 1979, they represented 29 percent. The distribution of Soviet trade, for 1975, 1978, and 1979 is summarized in the table provided.

In 1979, Soviet exports to Western industrialized countries increased by 44 percent over the 1978 level, while imports from these countries increased by about 20 percent. The gain in exports was caused by higher prices for crude oil, oil products and natural gas. The reduced trade deficit with Western industrialized countries and Soviet earn-

### USSR FOREIGN TRADE

Direction	1975	1978	1979
	--Million rubles--		
Exports . . . . .	24.0	35.7	42.4
to Socialist Countries . . . . .	14.6	21.3	23.6
to Western Industrialized Countries . . . . .	6.1	8.7	12.5
to Developing Countries . . . . .	3.3	5.7	6.3
Imports . . . . .	26.7	34.5	37.9
from Socialist Countries . . . . .	14.0	20.7	21.5
from Western Industrialized Countries . . . . .	9.7	11.0	13.2
from Developing Countries . . . . .	3.0	2.8	3.2

NOTE: Figures may not add due to rounding.

SOURCE: *Ekonomicheskaya gazeta*, No. 13, March 1980.

ings from gold sales and invisibles (tourism, remittances, etc.) will probably leave the USSR current account in the black for 1979. (Anton F. Malish)

### Agricultural Trade

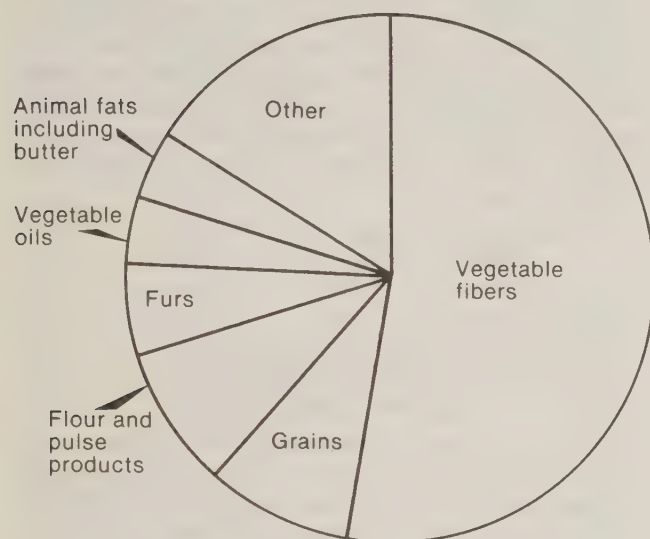
Soviet agricultural imports were valued at about \$5.1 billion in 1974 and rose sharply in 1975 to about \$9.1 billion, primarily on the strength of greatly increased imports of grains

<sup>29</sup>Dollar figures are converted from official Soviet statistics using U.S. dollar exchange rates for the Soviet foreign exchange ruble as announced by the State Bank of the USSR. In 1979, one ruble averaged \$1.52. Exports and imports are FOB.



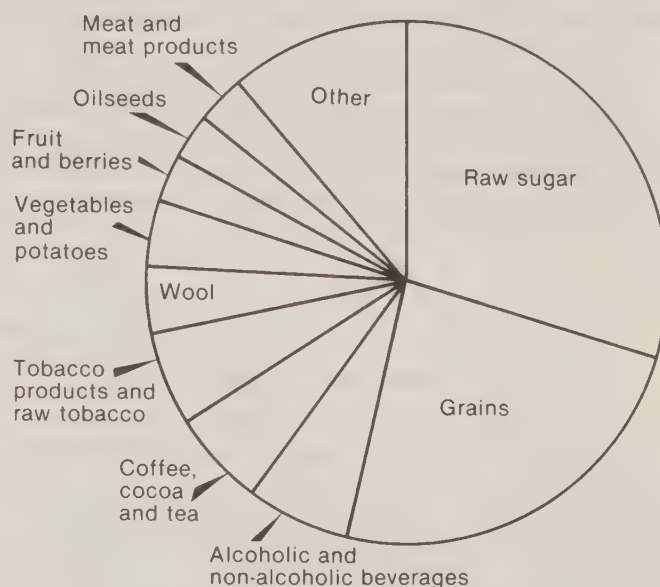
# USSR Agricultural Trade Structure, 1978

## Exports



USSR agricultural exports = \$2.3 billion  
Total USSR exports = \$52.1 billion

## Imports



USSR agricultural imports = \$10.2 billion  
Total imports = \$50.4 billion

Figure 5

and sugar (table 23 and table 25). Imports stayed at or near this level until 1978 when they increased to about \$10.2 billion. At that level, they represented about 20 percent of Soviet imports.

Raw sugar remained the principal agricultural import item, valued at \$3.1 billion. Raw sugar imports comprised 30 percent of USSR agricultural imports and 6 percent of total Soviet imports; grains were the second largest import valued at \$2.4 billion. Sugar and grain made up over half of total Soviet agricultural imports. Grain imports represented 24 percent. Alcoholic and nonalcoholic beverages, coffee, cocoa and tea, tobacco and tobacco products, wool, vegetables and potatoes, and fruits and berries, oilseeds, meat and meat products comprised slightly more than a third of Soviet agricultural imports.

In 1978 Cuba was the USSR's leading agricultural trading partner, accounting for 30 percent of total agricultural imports. Raw sugar was the leading commodity. The United States was the USSR's second largest source of agricultural imports, providing about 17 percent of the total. The United States provided about three-fifths of Soviet grain imports, and was also the major supplier of soybeans. Bulgaria and Hungary together provided about 15 percent of agricultural

## USSR Grain Imports by Country of Origin, 1970-1978

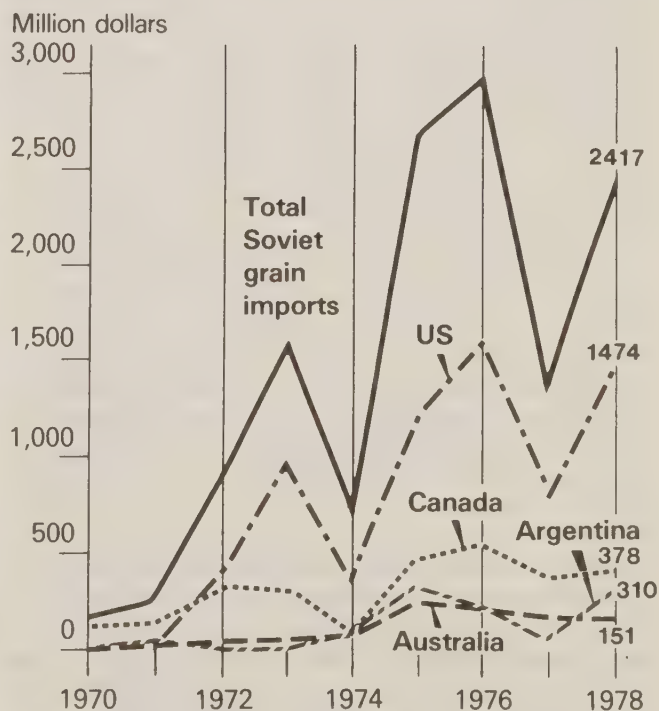


Figure 6

imports, supplying over half of the fruits and vegetables, wines and spirits, and meat and meat products.

Soviet exports of agricultural products have moved irregularly downward since 1974, when they were valued at \$2.8 billion. In 1978, they were valued at \$2.3 billion and represented about 5 percent of total exports.

Vegetable fibers (primarily cotton) were the leading agricultural export, comprising more than half (\$1.2 billion) of total agricultural exports in 1978 (tables 24 and 26). Poland and several East European countries were significant markets for

Soviet cotton, but Western countries—the EC and Japan—were important buyers as well. In 1978, grain made up 9 percent of total agricultural exports. Grain exports have showed wide year-to-year variations, and in 1978 were lower, at \$186 million, than in any recent year. Approximately half of these shipments went to Cuba with another quarter to Vietnam and the remainder to North Korea, Afghanistan and Czechoslovakia. Vegetable oils, a particularly important export item in 1974, valued at \$346 million, gradually declined to \$99 million in 1978. (*Mary Ponomarenko*)

## U.S.-USSR TRADE

### U.S. Agricultural Exports and Imports

The value of U.S. agricultural exports to the USSR in 1979 (excluding transshipments) reached a record \$2.8 billion, compared with \$1.7 billion in 1978 (table 27). The poor grain crop in 1978/79 raised USSR import requirements. U.S. grain exports (excluding transshipments) to the USSR reached 17.6 MMT in calendar 1979. U.S. wheat exports, at 5.4 MMT, increased 2.5 MMT over 1978. U.S. corn exports in 1979 were 12 MMT, compared to 1978's level of 10 MMT. Rice exports increased by 40 percent, reaching 22,857 tons.

U.S. soybean exports rose significantly over previous years to 1.8 MMT, more than doubling 1978's exports. The USSR also purchased small quantities of U.S. cattle hides, nuts and fruit, peanuts, and other products, valued at approximately \$151 million.

U.S. agricultural imports from the USSR reached \$14.7 million, up \$2.4 million from 1978.

USSR imports of soybeans

	1976	1977	1978
	—Thousand metric tons—		
TOTAL <sup>1</sup> .....	1,769	1,364	873
Brazil .....	1,344	569	30
United States .....	425	795	844

<sup>1</sup> Soviets do not publish total soybean imports; reported total is the sum of U.S. and Brazilian exports, no other countries show soybean exports to the USSR.

Furskins, casein, and cigarettes (Turkish leaf tobacco) accounted for most of the total value.

In FY 1980 (October-September), U.S. agricultural exports to the USSR are estimated at \$1.4 billion, down from the \$4.0 billion estimated prior to the suspension of sales. (*Mary Ponomarenko*)

### U.S. Suspension of Agricultural Sales to the USSR

In the closing days of 1979, the Soviet Union airlifted tens of thousands of troops into Afghanistan, an independent and nonaligned country. The United States viewed this invasion as a particularly serious threat to world peace, and reflecting this concern, initiated a number of national security and foreign policy actions, one of which was to suspend shipments of agricultural commodities to the USSR. Because agricultural trade with the Soviet Union is one of the most important aspects of U.S. relationships with that country, it was chosen as one of the most dramatic means of signaling the Soviet Union that it cannot threaten world peace without suffering the consequences.

The United States moved within the terms of its international commitments. The United States remained willing to ship those commodities that it agreed to supply in the fourth year of the US-USSR Grain Agreement. The Agreement provides for a minimum Soviet purchase of 6 million metric tons of grains approximately evenly divided between corn and wheat, during each year (October-September) of the agreement, and provides for a maximum purchase of 8 MMT without consultations.<sup>30</sup> At the time the sales suspension went into effect (January 7, 1980) about 5.5 million tons of grain had already been shipped. The United States indicated that the remaining 2.5 million tons be loaded and shipped.

The Soviets had been offered up to 25 MMT of grain for the fourth year of the Grain Agreement. The sales suspension denies the Soviets about 13 million tons of corn, 4 million tons of wheat, and

<sup>30</sup>The agreement is now in its fourth year, and it is scheduled to expire in September 1981.



about 1.3 million tons of soybeans and soybean products.

On February 1, 1980, the scope of the sales suspension was changed to permit those agricultural commodities not related to the Soviet feed-livestock economy, and with no strategic significance to again be shipped to the USSR. Products which could be shipped without validated licenses include fruits, nuts (except peanuts), tobacco, vegetables, and wood. In FY 1979, these products were valued at \$12 million out of \$2.067 billion in total U.S. agricultural sales to the USSR.

A second category of agricultural commodities was established which included products that might substitute for feed or meat under certain circumstances. These products—tallow, shrimp, fish and meat extenders, for example—would be subject to a case-by-case review under which export to the USSR might be denied. In FY 1979, items in this category were valued at about \$52 million.

The final category included commodities that contribute significantly to the feed-livestock economy. Validated export licenses for these products—wheat, feed grains, seed, soybeans and soybean products, meat, dairy products, etc.—would systematically be denied, except of course, for that portion needed to fulfill U.S. obligations under the fourth year of the Grain Agreement. In FY 1979, exports to the USSR of these commodities were valued at about \$2 billion. (*Anton F. Malish*)

### Impact on the USSR

Since food, seed, and industrial uses of grain usually are not greatly affected by even large changes in supply conditions, reduced availabilities of grain are likely to be reflected entirely in animal feeding. Recent estimates suggest that the Soviet Union will be able to feed about as much as in the 1978/79 (July/June) marketing year although livestock inventories on January 1, 1980 were at record levels. To help offset the reduced availability of U.S. agricultural commodities, Soviet authorities must reduce stocks to a minimum, search for non-U.S. feed grains and meat on the world market (and pay higher prices), make adjustment in livestock feeding, slaughter lighter weight animals, and reduce herds. The Soviets have purchased some grain from alternative sources, but the full effect of the sales suspension cannot be overcome. Soviet grain imports for 1979/80 (July/June), are now estimated at about 30.5 MMT, down by 7MMT from the 37.5 MMT they probably planned to import before the imposition of U.S. trade restrictions. The slowdown in imports is expected to cause a feed supply shortfall that will probably be most significant during

March to June before the new crop harvest. In one of the few public statements available from the Soviets, the head of the USSR's Ministry of Agriculture's grain crop department noted that in response to the sales suspension "...we will have to...make some changes in our stock raising program."

Although the Soviets may attempt to offset the effect of the grain sales suspension by increasing meat imports, world meat supplies are expected to be tight. Before the suspension, the Soviet Union was already moving to purchase a significant quantity of U.S. poultry meat, and there were indications that the Soviets planned large purchases of U.S. pork as well. With the suspension, this alternative source of supply of meat imports will be denied. (*Anton F. Malish*)

### Trade in Ammonia and Phosphoric Acid

In 1973, Occidental Petroleum concluded negotiations on a 20-year, \$20-billion agreement with the Soviets to build ammonia plants in the USSR, to import Soviet anhydrous ammonia into the United States, and to export superphosphoric acid to the USSR.

Anhydrous ammonia imports from the USSR began in 1978 and reached 305,000 short tons that year valued at \$26.7 million. In 1979, these imports reached 777,000 tons valued at \$56.5 million. Construction of the ammonia plants accounted for the 5-year lag between signing the agreement and the first shipments to the United States.

On July 11, 1979, 12 U.S. producers and one U.S. distributor of anhydrous ammonia petitioned the U.S. International Trade Commission (U.S.I.T.C.) for import relief under the section 406 of the Trade Act of 1974. The petition alleged that ammonia imported from the USSR disrupted the market for domestically produced ammonia. The Commission (by a 3-2 vote) determined that market disruption did in fact exist, and recommended a 3-year import quota (1-million ton limit for the first year) as a remedy. In December 1979, the President determined that imposition of a quota was not in the national economic interest. However, in January 1980, the President reversed his previous decision as an emergency action, and ordered a 1-million ton quota on ammonia imports from the USSR for 1980. As a consequence of the emergency action, the President asked the Commission for a second market disruption investigation. In March of 1980, The U.S.I.T.C. reversed its previous ruling and determined that market disruption did not exist. The president issued orders terminating the quota effective April 11, 1980.

In February 1980, all exports of phosphates to

the USSR were brought under the validated licensing procedure. Exports of superphosphoric acid to the USSR, which had been nil in 1978, had increased to 543,000 short tons in 1979 valued at \$93 million. Exports to the USSR of this critical fertilizer raw material had been expected to amount to 1 million tons each year between 1980 and 1997. Since February 1980, export licenses for superphosphoric acid destined for the USSR have been systematically denied.

As noted earlier in this report, phosphates are an important element in the Soviet fertilizer mix. While the Soviets might find other sources of phosphates converting their facilities to use merchant grade material would necessitate a major new investment and take one to two years to complete. In the meantime, they would be unable to meet their liquid fertilizer production goals which are part of their major capital investments in agriculture. (*Anton F. Malish*)

## 1980 OUTLOOK

Prospects for Soviet agricultural production in 1980 are better than last year. Gross agricultural output fell 4 percent in 1979, primarily due to the poor grain crop. Output in 1980 is planned to rise 12.5 billion rubles (10 percent) to 136 billion, but this plan may be overly ambitious especially in the face of restricted grain imports throughout the year. Should the Soviets receive favorable weather in 1980, gross output could climb to record levels in excess of 130 billion rubles and may approach planned levels.

Dry conditions in the fall of 1979 and early completion of the grain harvest in winter grain areas allowed the Soviets to exceed the 1978 level of winter seedings. Total fall-sown crops met plan levels of 42 million hectares, of which grain totaled 36.9 million or an estimated increase of 4 million hectares over 1978. Fall plowing for seeding this spring totaled 105.8 million hectares, down from 110 million in 1978 and 114 million in 1977. Winterkill in 1979/80 is expected to have been about normal, and the final winter grain area should be 30-32 million hectares, as compared to the 26.6 million hectares in the previous year.

Prospects for winter grain production in 1980 are greatly enhanced from a year earlier because of the increased area and moderate winter weather to date. A good winter grain crop would help ease the tight livestock feed situation resulting from last year's poor crop and the U.S. sales suspension. In addition, a good winter grain crop would be an important element in meeting the 1980 grain production goal of 235.1 million tons. The grain area in 1980 is expected to be up at least 2.5 million hectares, to about 129-130 million.

Production prospects for other crops are even more uncertain at this time because spring planting is just beginning after delays caused by the late arrival of spring, and weather patterns are crucial to the outcome. However, compared with output in 1979 and plan goals for 1980, crop prospects are generally improved; particularly if better weather conditions are assumed.

Seed cotton production should exceed the 9.1 million ton plan goal and may surpass the 9.16

million produced in 1979. The Soviets have successfully increased cotton area and yields over time. This trend is expected to continue in the near term as annual production targets have traditionally been met. The poor sunflowerseed crop of 5.37 million tons could be surpassed in 1980, as growing conditions were unusually poor in 1979. However, the crop will likely fall well short of the 1980 goals calling for 7.7 million, as no increase in area is planned. Sunflowerseed production and procurements have fallen well short of plan for many years, putting additional strain on both the vegetable oil and protein meal sectors.

Prospects for other major crops, such as sugarbeets, potatoes, and vegetables are better than in 1979. Production plans for 1980 call for sugarbeet output to recover to 98.4 million tons, potatoes to 104 million, vegetables to 28.4 million (revised downward from 30.3 million), fruits and berries to 10 million tons, and grapes to 6.2 million.

In the livestock area, Soviet planners have made sweeping revisions in the 1980 plan goals from those originally set forth in the tenth five-year plan (1976-80). The livestock output revisions came at a time when Soviet economic planners realized that the original targets were beyond reach even without the imposition of U.S. trade restrictions. Grain consuming animal units were at record levels on January 1, but poor feeding efficiencies prevent the Soviets from getting adequate returns on the livestock herds in the form of meat output and other livestock products.

The 1980 plan production goals for meat, milk, and wool have been lowered while the production goal for eggs has been revised slightly upward. Meat output is now planned at 15.7 million tons relative to the original goal of 17.3 million. The reduced goal for meat is due to smaller planned output of beef and pork, but not poultry. The original plan goal for poultry meat production was set at 1.9 million tons; and even with the new total meat goal, poultry meat output should easily surpass the original target. Milk production was revised downward to 95 million tons from 102.1 million, and the wool



output target was reduced 39,000 tons to 476,000. Egg production was revised upward to 67.6 billion from 66.8 billion, reflecting the overall favorable performance of the poultry sector in general.

These revisions make it feasible for the Soviets to attain some of the 1980 targets. However, the

new meat target does not appear within reach at this time. Furthermore, due to the poor roughage situation and steadily declining milk yields over the past few years, the 1980 milk production target may also be a difficult task. (*Michael D. Zahn*)

Table 1-Total supply and estimated utilization of grain, USSR, 1956/57-1979/80 1/

Year beginning July 1	Pro- duction	Trade		Net 2/ 3	Availa- bility	Seed	Utilization				Total	Stock change 2/ 3
		Imports	Exports				Indus- trial	Food	Dockage- waste	Feed		
Million metric tons												
1956/57	125.0	0.9	5.4	-4.5	120	18	3	42	12	33	108	+12
1957/58	102.6	1.5	6.2	-4.7	98	18	3	43	10	34	109	+11
1958/59	134.7	1.7	7.7	-6.0	129	18	3	43	13	39	117	+12
1959/60	119.5	1.0	6.8	-5.8	114	18	3	43	12	40	116	-2
1960/61	125.5	0.8	7.0	-6.2	119	20	3	42	13	41	118	+1
1961/62	130.8	0.8	8.4	-7.6	123	21	3	44	13	45	126	-3
1962/63	140.2	0.6	8.3	-7.7	133	23	2	48	14	43	130	+2
1963/64	107.5	10.4	4.7	+5.7	113	23	2	47	5	32	110	+3
1964/65	152.1	2.6	4.3	-1.7	150	22	3	45	17	44	130	+20
1965/66	121.1	9.0	5.3	+3.7	125	24	3	44	12	56	139	-14
1966/67	171.2	3.9	5.3	-1.4	170	24	3	44	14	60	144	+26
1967/68	147.9	2.3	6.4	-4.1	144	24	3	44	12	64	146	-2
1968/69	169.5	1.2	7.4	-6.2	163	25	3	44	17	72	160	+3
1969/70	162.4	1.8	7.6	-5.8	157	23	3	45	23	83	177	-20
1970/71	186.8	1.3	8.5	-7.2	180	25	3	45	22	92	188	-8
1971/72	181.2	8.3	6.9	+1.4	183	27	3	45	13	93	181	+2
1972/73	168.2	22.8	1.8	+21.0	189	26	3	45	15	98	187	+2
1973/74	222.5	11.3	6.1	+5.2	228	27	3	45	33	105	214	+14
1974/75	195.7	5.7	5.3	+0.4	196	28	3	45	23	107	206	-10
1975/76	140.1	26.1	0.7	+25.4	166	28	3	45	14	89	180	-14
1976/77	223.8	11.0	3.3	+7.7	232	29	3	45	31	112	221	+11
1977/78	195.7	18.9	2.3	+16.8	213	28	4	45	29	122	228	-16
1978/79	237.0	15.6	2.8	+12.8	250	28	4	46	28	125	231	+19
1979/80	179.0	30.5	0.8	+29.7	208	28	4	46	22	126	226	-18
1980/81												

1/ Rounded to the nearest million tons, except for production and trade data. Thus, totals may not add due to rounding.

2/ Minus indicates net exports or draw-down of stocks.

3/ Difference between availability and estimated total utilization.

4/ Preliminary for trade, availability, utilization and stock change.

5/ Forecast.



Table 2--Supply and estimated utilization of wheat and coarse grains, USSR, 1971/72-1979/80 1/

Year beginning July 1	Pro- duction	Trade		Net 2/ :	Availability		Utilization			Total	Stock change 2/ 3/
		Imports	Exports		Seed	Indus- trial	Food	Dockage- waste	Feed		
Million metric tons											
Wheat											
1971/72	98.8	3.5	5.8	-2.3	97	15	35	7	36	94	+3
1972/73	86.0	15.6	1.3	+14.3	100	14	35	8	41	98	+2
1973/74	109.8	4.5	5.0	-0.5	109	14	34	16	30	96	+13
1974/75	83.9	2.5	4.0	-1.5	82	14	34	10	34	93	-11
1975/76	66.2	10.1	0.5	+9.6	76	15	35	7	30	87	-11
1976/77	96.9	4.6	1.0	+3.6	100	15	35	14	28	92	+8
1977/78	92.2	6.6	1.0	+5.6	98	15	35	14	44	108	-10
1978/79	120.8	5.1	1.5	+3.6	125	14	35	14	43	107	+18
1979/80 4/ 1980/81	90.1	11.8	0.5	11.3	101	15	35	11	54	116	-15
Coarse grains 5/											
1971/72	72.6	4.3	0.9	+3.4	76	10	7	5	51	76	0
1972/73	72.5	6.9	0.4	+6.5	79	11	7	7	53	79	0
1973/74	101.0	6.4	0.9	+5.5	106	11	7	15	70	105	+1
1974/75	99.7	2.7	1.0	+1.7	101	11	7	12	68	100	+1
1975/76	65.8	15.6	0	+15.6	81	12	7	7	56	84	-3
1976/77	115.0	5.7	2.0	+3.7	119	12	7	16	78	116	+3
1977/78	92.6	11.7	1.0	+10.7	103	11	7	14	74	108	-5
1978/79	105.0	10.0	1.0	9.0	114	12	7	13	79	113	+1
1979/80 4/ 1980/81	80.0	18.2	0	18.1	98	12	7	10	69	101	-3

1/ Rounded to the nearest million tons, except for production and trade data. Thus, totals may not add due to rounding.

2/ Minus indicates net exports or draw-down of stocks.

3/ Difference between availability and estimated total utilization.

4/ Preliminary.

5/ Includes rye, barley, oats, corn and millet.

Table 3--January 1 livestock numbers and animal units in terms of cows, USSR, 1955, 1960-1980

Year	Cattle		Hogs		Sheep	Goats	Horses	Poultry	Total animal units 2/
	Total	Cows 1/	Total	Sows					
Million head									
1955	56.7	26.4	31.0	NA	99.0	14.0	14.1	3/375.0	3/86.8
1960	74.2	33.9	53.4	4.22	136.1	7.9	11.0	514.3	109.8
1961	75.8	34.8	58.7	4.70	133.0	7.3	9.9	515.6	111.3
1962	82.1	36.3	66.7	NA	137.5	7.0	9.4	542.6	118.5
1963	87.0	38.0	70.0	NA	139.7	6.7	9.1	550.4	123.1
1964	85.4	38.3	40.9	NA	133.9	5.7	8.5	449.1	110.2
1965	87.1	38.8	52.8	NA	125.2	5.4	7.9	456.2	113.7
1966	93.4	39.3	59.6	4.11	129.8	5.5	8.0	490.7	121.0
1967	97.1	40.2	58.0	3.81	135.5	5.5	8.0	516.3	124.2
1968	97.2	40.4	50.9	3.36	138.4	5.5	8.0	528.4	122.7
1969	95.7	40.1	49.0	3.30	140.6	5.6	8.0	546.9	121.7
1970	95.2	39.4	56.1	3.62	130.7	5.1	7.5	590.3	122.6
1971	99.2	39.8	67.5	4.04	138.0	5.4	7.4	652.7	130.5
1972	102.4	40.0	71.4	4.02	139.9	5.4	7.3	686.5	134.4
1973	104.0	40.6	66.6	3.95	139.1	5.6	7.1	700.0	134.1
1974	106.3	41.4	70.0	4.03	142.6	5.9	6.8	747.7	138.0
1975	109.1	41.9	72.3	4.02	145.3	5.9	6.8	792.4	141.6
1976	111.0	41.9	57.9	3.71	141.4	5.7	6.4	734.4	136.5
1977	110.3	42.0	63.1	3.76	139.8	5.5	6.0	796.0	138.4
1978	112.7	42.6	70.5	4.04	141.0	5.6	5.8	882.3	143.9
1979	114.1	43.0	73.5	4.17	142.6	5.5	5.7	953.2	147.3
1980	115.0	43.3	73.7	3/4.10	3/143.7	3/5.5	3/5.5	3/1,000.0	3/149.0
1981									
1982									

NA = Not available.

1/ Revised series beginning 1966; excludes cows placed on feed for slaughter. 2/ In terms of cows. Conversion ratios as follows: Cattle (other than cows) .6; hogs .3; total sheep and goats .1; horses 1.0; and poultry .02. Source: Spravochnik ekonomista kolkhoza i sovkhoza, (Moscow, 1970), p. 523. 3/ Estimate.



Table 4--Livestock numbers on collective and state farms, USSR, as of first of month, 1976-80

Livestock and year	January	February	March	April	May	June	July	August	September	October	November	December
	:	:	:	:	:	:	:	:	:	:	:	:
	Million head											
<b>Cattle, total:</b>												
1976	83.8	82.9	83.7	85.3	87.1	87.8	87.7	87.6	86.7	85.0	84.2	83.5
1977	83.4	85.0	86.0	87.6	89.7	90.6	90.2	89.8	88.9	87.1	86.3	86.2
1978	86.6	86.8	88.1	90.0	91.7	92.5	91.6	91.6	90.8	89.2	88.6	88.2
1979	88.0	88.2	89.2	91.1	93.0	93.7	92.9	92.3	91.4	90.1	89.3	88.9
1980	89.0	88.9	89.6	91.6								
<b>Cows:</b>												
1976	27.4	27.2	27.2	27.4	27.5	27.7	27.8	27.7	27.7	27.6	27.5	27.6
1977	27.8	28.1	28.1	28.3	28.5	28.7	28.8	28.8	28.7	28.7	28.6	28.7
1978	28.9	28.8	28.8	29.0	29.2	29.3	29.3	29.3	29.3	29.2	29.1	29.2
1979	29.4	29.3	29.2	29.4	29.6	29.7	29.7	29.6	29.6	29.5	29.4	29.4
1980	29.8	29.5	29.5	29.6								
<b>Other cattle:</b>												
1976	56.4	55.7	56.5	57.9	59.6	60.1	59.9	59.9	59.0	57.4	56.7	55.9
1977	55.6	56.9	57.9	59.3	61.2	61.9	61.4	61.0	60.2	58.4	57.7	57.5
1978	57.7	58.0	59.4	61.0	62.5	63.2	61.5	62.3	61.5	60.0	59.5	59.0
1979	58.6	58.9	60.0	61.7	63.4	64.0	63.2	62.7	61.8	60.6	59.9	59.5
1980	59.2	59.4	60.1	62.0								
<b>Hogs:</b>												
1976	41.9	41.2	41.2	41.8	43.8	45.6	46.5	48.3	49.2	49.3	48.8	47.7
1977	47.3	48.6	49.1	49.1	50.2	51.4	52.8	54.7	55.5	54.9	54.2	53.4
1978	52.4	53.0	53.6	53.7	54.6	55.9	56.4	58.3	59.0	58.4	57.7	56.5
1979	54.9	55.0	55.1	54.9	55.6	56.6	57.0	58.2	58.8	58.5	57.5	56.0
1980	55.2	54.9	54.3	54.4								
<b>Sheep and goats:</b>												
1976	115.4	117.7	122.5	131.9	143.1	144.4	140.3	136.8	131.0	122.7	117.8	115.2
1977	114.4	117.8	124.3	135.1	147.2	149.2	144.7	140.6	133.6	124.6	119.1	116.4
1978	115.6	118.8	125.8	137.2	149.4	150.2	145.5	142.4	136.2	127.1	121.2	118.2
1979	116.6	120.0	126.2	139.7	151.0	150.9	146.3	142.3	136.0	127.3	121.6	118.6
1980	117.4	119.8	126.5	137.8								
<b>Poultry:</b>												
1976	369.6	368.6	395.9	433.4	476.3	504.0	509.1	500.9	481.6	459.3	444.4	434.9
1977	437.7	442.9	470.1	513.2	564.6	598.0	597.1	594.9	572.5	540.5	518.5	503.9
1978	497.5	496.5	528.8	575.2	625.9	650.1	644.6	644.3	623.2	595.1	573.1	555.0
1979	549.7	543.9	568.1	617.5	671.5	695.7	685.2	685.5	666.8	635.4	616.1	593.4
1980	592.0	586.0	606.0	642.8								

Table 5--Livestock numbers in socialized and private sectors,  
USSR, January 1, 1975-79

Organization	Cattle	Cows	Hogs	Sheep	Goats	Poultry
			-- 1,000 head --			Mil. head
Collective farms and interfarm complexes:						
1975	46,320	15,067	33,124	52,907	588	NA
1976	48,167	15,323	25,729	51,576	575	NA
1977	47,827	15,537	28,475	50,380	477	NA
1978	48,443	15,757	30,699	49,005	416	NA
1979	49,200	16,000	32,300	48,700	400	NA
1980						
Interfarm complexes						
1975	NA	NA	NA	NA	NA	NA
1976	579	23	1,627	365	2	NA
1977	794	28	2,331	509	33	NA
1978	1,173	27	3,157	543	33	NA
1979	1,800	30	3,800	800	30	NA
1980						
State farms and other state enterprises:						
1975	38,293	12,611	25,498	65,121	618	NA
1976	39,402	12,854	19,943	64,862	665	NA
1977	39,706	13,062	22,812	64,959	776	NA
1978	40,995	13,456	25,009	66,899	847	NA
1979	41,800	13,700	26,400	68,900	900	NA
1980						
State farms						
1975	34,605	11,874	20,494	62,478	611	NA
1976	35,588	12,096	16,151	62,398	660	NA
1977	37,049	12,784	19,700	63,684	769	NA
1978	38,100	13,200	21,700	65,200	838	NA
1979	38,800	13,400	22,700	66,900	900	NA
1980						
Private farms						
1975	24,509	14,232	13,651	27,277	4,721	NA
1976	23,465	13,740	12,227	24,998	4,415	355
1977	22,813	13,388	11,768	24,495	4,286	328
1978	23,252	13,379	14,803	25,121	4,323	NA
1979	23,600	13,400	16,100	25,500	4,500	NA
1980						

NA = Not available.



Table 6--Livestock slaughter on collective and state farms and on private holdings, USSR, 1975-78

Economic holding and year	Cattle			Hogs			Sheep and goats		
	Number slaughtered	Live weight	Average weight	Number slaughtered	Live weight	Average weight	Number slaughtered	Live weight	Average weight
	Thousands	1,000 metric tons	Kilograms	Thousands	1,000 metric tons	Kilograms	Thousands	1,000 metric tons	Kilograms
Collective and state farms:									
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	29,218	8,959	307	37,007	3,145	85	34,338	1,060	31
1977	28,436	9,314	327	40,602	3,769	93	36,066	1,138	32
1978	29,138	NA	NA	42,328	NA	NA	35,881	NA	NA
1979									
1980									
Total socialized farms: 1/									
1975	27,915	8,674	311	54,707	4,852	89	42,657	1,252	29
1976	29,508	8,841	300	38,816	3,471	89	34,619	1,072	31
1977	28,725	9,432	328	42,314	4,112	97	36,447	1,153	32
1978	29,437	9,738	331	44,172	4,297	97	36,336	1,167	32
1979									
1980									
Private holdings:									
1975	8,682	NA	NA	21,603	NA	NA	23,641	NA	NA
1976	8,683	2,321	267	18,837	2,314	123	20,518	804	39
1977	7,708	1,987	257	19,845	2,472	124	18,924	744	39
1978	8,205	NA	NA	23,127	NA	NA	20,352	NA	NA
1979									
1980									
Total:									
1975	36,597	NA	NA	76,310	NA	NA	66,298	NA	NA
1976	38,191	11,162	292	57,653	5,785	100	55,137	1,876	34
1977	36,433	11,419	313	62,159	6,584	106	55,371	1,897	34
1978	37,642	NA	NA	67,299	NA	NA	56,688	NA	NA
1979									
1980									

NA = Not available.

1/ Includes collective and state farms and other government farms.

Table 7--Production of principal livestock products, USSR, 5-year averages, 1966-75, and annual, 1966-79

Year	Meat						Milk	Wool 2/	Eggs
	Total	Beef and veal	Pork 1/	Mutton, lamb, and goat	Poultry	Other			
				1,000 metric tons					Millions
1966	10,704	4,377	4,465	933	745	184	75,992	371	31,672
1967	11,515	5,081	4,456	1,028	764	186	79,920	394	33,921
1968	11,648	5,513	4,079	1,029	817	210	82,295	415	35,679
1969	11,770	5,569	4,094	969	866	272	81,540	390	37,190
1970	12,278	5,393	4,543	1,002	1,071	269	83,016	419	40,740
Average	11,583	5,187	4,327	992	853	224	80,553	398	35,840
1971	13,272	5,536	5,277	996	1,183	280	83,183	429	45,100
1972	13,633	5,722	5,445	923	1,237	306	83,181	420	47,910
1973	13,527	5,873	5,081	954	1,295	324	88,300	433	51,154
1974	14,620	6,384	5,515	974	1,420	327	91,760	462	55,509
1975	14,968	6,409	5,651	1,014	1,539	355	90,804	467	57,463
Average	14,008	5,984	5,394	972	1,335	323	87,446	442	51,427
1976	13,583	6,615	4,343	885	1,411	329	89,675	436	56,187
1977	14,722	6,892	4,961	898	1,700	271	94,929	459	61,194
1978	15,501	7,086	5,302	921	1,902	290	94,677	467	64,517
1979	3/15,500	4/7,000	4/5,200	4/900	4/2,100	4/300	3/93,300	3/472	3/65,600
1980									
Average									

1/ Including fat.

2/ Greasy basis.

3/ Preliminary.

4/ Estimate.



Table 8--Trade in meat and meat products, USSR, 1966-70 average, 1971-78 annual

	1966-70 average	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
--1,000 metric tons--											
Imports											
Total meat & meat products	98	225	131	129	515	515	362	617	184		
Fresh, frozen meat	74	203	85	89	472	454	284	559	136		
Red meat	43	116	40	46	396	406	226	438	84		
Poultry meat	31	87	45	43	76	48	58	121	52		
Canned meat	10	9	24	24	23	19	19	23	19		
Canned meat with vegetables	13	9	17	10	10	24	46	28	19		
Other	0	4	5	6	10	18	13	7	10		
Exports											
Total meat & meat products	115	35	60	75	56	44	41	33	39		
Fresh, frozen meat	97	11	37	47	27	18	8	8	10		
Red meat	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Poultry meat	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Canned meat	18	19	17	20	20	18	23	20	22		
Canned meat with vegetables	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Other	0	5	6	8	9	8	10	5	7		

NA = Not available.

Table 9 --Production, trade, and available supplies of cotton lint, USSR,  
crop years 1965/66-1979/80

Year beginning August 1	Procurements: of seed cotton	Lint cotton: production	Imports 1/	Exports 1/	Net exports	Supplies available for domestic utilization
			1,000 metric tons			
1965/66	5,662	1,917	176	487	310	1,607
1966/67	5,981	2,006	156	523	367	1,639
1967/68	5,970	2,021	140	546	406	1,615
1968/69	5,945	1,952	152	495	339	1,613
1969/70	5,708	1,956	221	490	269	1,687
1970/71	6,890	2,344	249	534	285	2,059
1971/72	7,101	2,347	198	608	410	1,937
1972/73	7,296	2,400	146	697	551	1,849
1973/74	7,664	2,401	136	734	598	1,803
1974/75	8,409	2,660	138	775	637	2,023
1975/76	7,864	2,528	125	846	721	1,807
1976/77	8,281	2,615	104	936	832	1,783
1977/78	8,758	2/ 2,768	77	906	829	1,939
1978/79	8,500	2/ 2,669	2/70	2/ 810	2/ 740	2/ 1,929
1979/80	9,160	3/ 2,858	3/70	3/ 850	3/ 780	3/ 2,078
1980/81						
1981/82						
1982/83						
1983/84						
1984/85						

1/ Calendar year data converted to crop year basis.

2/ Estimate .

3/ Forecast .





Table 11--Vegetable oil production from domestic and imported oilseeds, USSR, monthly and cumulative, September-August, 1972/73-1979/80

[illegible]

1/ Beginning January 1974, data are from information supplied by the USSR under the US-USSR Agreement on Agricultural Cooperation.

2/ Includes preceding month.

23/ Data available for only March, April and May of 1979.

NA = not available.



Table 12 --Deliveries of mineral fertilizer to agriculture by type, USSR, 5 year averages, 1966-75, annual 1971-79 and 1980 plan

Year	Total		Nitrogen 1/ :	Phosphate 1/ :	Ground phosphate rock	Potash	Trace elements	Feed additives		
	Including feed additives	Excluding feed additives						Urea	Feed phosphates	
Standard gross weight:										
1966-70 average	36,977	NA	17,171	2/ 9,878	4,508	5,340	79	--	--	NA
1971	50,547	50,020	25,279	13,057	4,916	6,703	65	--	--	527
1972	54,795	53,932	27,346	13,968	4,756	7,784	78	90	90	773
1973	59,988	58,472	30,361	14,606	4,740	8,667	98	159	159	1,358
1974	65,884	63,841	32,665	17,520	4,650	8,914	92	243	243	1,800
1975	75,718	73,537	35,798	20,478	4,731	12,444	86	334	334	1,847
1971-75 average	61,386	59,960	30,290	15,926	4,759	8,902	84	165	165	1,261
1976	77,732	75,010	35,376	21,751	4,395	13,407	81	382	382	2,340
1977	79,760	76,984	36,694	22,918	4,307	12,981	84	435	435	2,341
1978	81,304	79,002	37,358	24,334	4,258	12,967	85	385	385	1,832
1979	78,600	76,000	NA	NA	NA	NA	NA	NA	NA	NA
1980 plan	NA	3/88,000								
Nutrient weight 5/										
1966-70 average	8,453	NA	3,520	2/ 1,847	857	2,221	7	--	--	NA
1971	11,451	11,352	5,182	2,442	934	2,788	6	--	--	99
1972	12,530	12,367	5,606	2,612	904	3,238	7	18	18	145
1973	13,756	13,470	6,224	2,731	901	3,605	9	32	32	254
1974	14,958	14,572	6,696	3,276	884	3,708	8	50	50	336
1975	17,665	17,251	7,339	3,829	899	5,176	8	68	68	346
1971-75 average	14,072	13,802	6,209	2,978	904	3,703	8	34	34	236
1976	18,255	17,739	7,252	4,068	835	5,577	7	78	78	438
1977	18,561	18,034	7,522	4,286	818	5,400	8	89	89	437
1978	18,841	18,420	7,658	4,551	809	5,394	8	79	79	342
1979										
1980										

-- = Negligible or none

NA = Not available.

1/ Excluding feed additives.

2/ Includes feed additives.

3/ Plan revised downward from 115,000 metric tons.

4/ Nitrogen--20.5 percent N, phosphates--18.7 percent P<sub>2</sub>O<sub>5</sub>, ground rock phosphates--19 percent P<sub>2</sub>O<sub>5</sub>, potash--41.6 percent K<sub>2</sub>O.

Table 13--Production of mineral fertilizers by type, USSR, 5 year averages  
1966-75, annual 1971-79 and 1980 plan

Year	Total	Nitrogen	Phosphate	Ground phosphate: rock	Potash	Trace elements
				1,000 metric tons		
Standard gross weight:						
1966-70 average	44,127	20,527	10,855	5,029	7,638	78
1971	61,398	29,530	14,826	5,420	11,556	66
1972	66,066	31,945	15,663	5,319	13,061	78
1973	72,332	35,310	17,305	5,395	14,224	98
1974	80,357	38,308	20,683	5,442	15,822	92
1975	90,202	41,628	23,816	5,573	19,097	88
1971-75 average	74,071	35,344	18,459	5,430	14,754	84
1976	92,244	41,970	25,844	4,372	19,977	81
1977	96,752	44,450	27,822	4,320	20,063	97
1978	97,976	45,356	28,596	4,240	19,694	90
1979	94,500	NA	NA	NA	NA	NA
1980 plan	1/115,000					
Nutrient weight 2/ :						
1966-70 average	10,379	4,210	2,030	955	3,177	7
1971	14,670	6,055	2,772	1,030	4,807	6
1972	15,931	6,551	2,929	1,011	5,433	7
1973	17,429	7,241	3,236	1,025	5,918	9
1974	19,352	7,856	3,868	1,034	6,586	8
1975	21,998	8,535	4,452	1,059	7,944	8
1971-75 average	17,877	7,248	3,451	1,032	6,138	8
1976	22,590	8,609	4,833	831	8,310	7
1977	23,493	9,114	5,203	821	8,347	8
1978	23,653	9,299	5,347	806	8,193	8
1979	NA	NA	NA	NA	NA	NA
1980						

1/ Plan revised from 143,000 metric tons.

2/ Nitrogen--20.5 percent N, phosphates--18.7 percent  $P_2O_5$ , ground rock phosphates--19 percent  $P_2O_5$ , potash--41.6 percent  $K_2O$ .



Table 14---Area, yield, and production of grain, USSR, 5-year averages, 1966-75, and annual, 1971-79

Year	Wheat			Rye	Barley	Oats	Corn	Other 1/	Total grain
	Winter	Spring	Total						
1,000 hectares									
Area:									
1966-70 average	18,280	48,894	67,174	11,505	20,331	8,680	3,517	10,876	122,083
1971	20,694	43,341	64,035	9,507	21,566	9,632	3,322	9,865	117,937
1972	14,979	43,513	58,492	8,160	27,269	11,358	4,012	10,867	120,158
1973	18,340	44,815	63,155	7,012	29,387	11,887	4,031	11,266	126,738
1974	18,610	41,066	59,676	9,810	31,079	11,567	3,955	11,100	127,187
1975	19,593	43,392	61,985	8,010	32,547	12,107	2,652	10,619	127,920
Average	18,443	43,025	61,487	8,500	28,370	11,310	3,596	10,743	123,988
1976	17,248	42,219	59,467	9,035	34,261	11,269	3,303	10,425	127,760
1977	20,712	41,318	62,030	6,697	34,514	13,026	3,362	10,715	130,344
1978	23,122	39,776	62,898	7,719	32,690	12,097	2,535	10,526	128,465
1979	18,718	38,964	57,682	6,476	37,005	12,239	2,667	10,282	126,351
1980									
Average									
Metric tons per hectare									
Yield: 2/									
1966-70 average	1.96	1.11	1.34	1.12	1.50	1.38	2.72	1.18	1.37
1971	2.31	1.18	1.54	1.35	1.60	1.52	2.58	1.20	1.54
1972	1.96	1.30	1.47	1.18	1.35	1.24	2.44	1.09	1.40
1973	2.70	1.35	1.74	1.53	1.87	1.47	3.28	1.44	1.76
1974	2.40	.95	1.40	1.55	1.74	1.32	3.05	1.35	1.54
1975	1.87	.70	1.07	1.13	1.10	1.03	2.74	.87	1.09
Average	2.26	1.10	1.45	1.36	1.53	1.31	2.82	1.19	1.47
1976	2.59	1.24	1.63	1.55	2.03	1.61	3.06	1.45	1.75
1977	2.51	.97	1.48	1.27	1.53	1.41	3.26	1.24	1.50
1978	2.98	1.30	1.92	1.76	1.90	1.53	3.53	1.26	1.85
1979	3/2.04	3/1.33	4/1.56	3/1.25	3/1.26	3/1.23	3/3.15	3/1.06	4/1.42
Average									
1,000 metric tons									
Production:									
1966-70 average	35,888	54,304	90,192	12,834	30,454	11,938	9,558	12,785	167,562
1971	47,787	50,973	98,760	12,787	34,571	14,650	8,597	11,810	181,175
1972	29,380	56,613	85,993	9,633	36,813	14,095	9,830	11,874	168,238
1973	49,435	60,349	109,784	10,759	55,044	17,516	13,216	16,211	222,530
1974	44,698	39,215	83,913	15,223	54,208	15,302	12,104	14,958	195,708
1975	36,651	29,573	66,224	9,064	35,808	12,495	7,328	9,199	140,118
Average	41,590	47,345	89,941	11,493	43,289	14,812	10,215	12,810	181,554
1976	44,594	52,288	96,882	13,991	69,539	18,113	10,138	15,092	223,755
1977	51,971	40,190	92,161	8,480	52,687	18,407	10,979	13,013	195,727
1978	68,995	51,825	120,820	13,603	62,077	18,507	8,951	13,218	237,176
1979	3/38,100	3/52,000	4/90,100	3/8,1003	3/46,500	3/15,000	3/8,4003	3/10,9004	4/179,000
1980									
Average									

1/ Includes millet, buckwheat, rice, pulses, and miscellaneous grains.

2/ Calculated from area and production data when official yield data are not available.

3/ Estimate.

4/ Preliminary.

Table 15--Area, yield, and production of selected nongrain crops, USSR,  
5-year averages, 1966-75, and annual, 1971-79

[illegible]

NA = Not available.

1/ Bearing area.

2/ Excluding makhorka.

3/ Preliminary.

4/ Estimate.



Table 16--Area, yield, and production of selected forage crops, USSR,  
5-year averages, 1971-75, and annual 1971-79

Year	Hay <u>1/</u>					Silage	Feed
	Annual	Perennial	Tame total	Wild	Total	corn <u>2/</u>	roots <u>3/</u>
<u>1,000 hectares</u>							
Area:							
1971	18,863	22,907	41,770	NA	NA	17,835	1,651
1972	18,021	24,243	42,264	NA	NA	17,896	1,770
1973	15,901	24,616	40,517	NA	NA	16,927	1,755
1974	16,066	25,505	41,571	NA	NA	17,127	1,703
1975	16,715	25,353	42,068	NA	NA	17,346	1,639
Average	17,113	24,524	41,637	NA	NA	17,426	1,704
1976	16,634	24,149	41,783	NA	NA	18,114	1,803
1977	15,770	26,095	41,865	NA	NA	15,557	1,705
1978	17,774	25,353	43,127	NA	NA	16,695	1,714
1979	NA	NA	44,199	NA	NA	16,798	1,755
1980							
Average							
<u>Metric tons per hectare</u>							
Yield <u>4/</u> :							
1971	1.48	1.56	1.52	0.63	NA	11.7	20.6
1972	1.50	1.67	1.60	0.64	NA	11.2	20.7
1973	2.03	1.86	1.92	0.62	NA	16.3	24.9
1974	1.96	1.99	1.98	0.58	NA	12.9	24.0
1975	1.51	1.79	1.68	0.52	NA	10.8	19.3
Average	1.68	1.78	1.74	0.60	NA	12.6	21.9
1976	2.11	2.00	2.04	0.57	NA	14.9	26.0
1977	2.10	2.22	2.18	0.54	NA	15.5	24.9
1978	2.22	2.48	2.37	0.64	NA	14.7	24.4
1979							
1980							
Average							
<u>1,000 metric tons</u>							
Production:							
1971	27,911	35,741	63,652	49,020	112,672	210,862	36,694
1972	27,020	40,468	67,487	47,015	114,502	206,136	39,559
1973	32,288	45,799	78,087	47,971	126,058	281,744	47,106
1974	31,475	50,864	82,339	48,350	130,689	226,464	43,934
1975	25,260	45,354	70,614	41,843	112,457	192,981	34,424
Average	28,791	43,645	72,436	46,840	119,276	223,637	40,343
1976	35,024	50,301	85,325	43,428	128,753	277,136	49,975
1977	33,064	58,002	91,066	41,606	132,672	246,803	45,298
1978	39,457	62,912	102,369	46,260	148,629	250,656	45,681
1979							
1980							
Average							

NA = Not available.

1/ Includes hay equivalent of grass and legume haylage, green chop, and dehydrated meal.

2/ Includes corn silage and green chop.

3/ Includes sugarbeets for feed.

4/ Tame hay yields are calculated; official published yields include hay only and exclude hay equivalent of other grasses and legumes. Wild hay yields are published yields for socialized farms. Silage corn and feed root yields are published yields, which are slightly lower than calculated yields, indicating that a small part of production originates from intertilled or double-cropped area not included in area data.

Table 17 --- Production of grain and selected nongrain crops by republic, USSR, 1978

Republic	Total grain	Wheat	Cotton	Sugar-beets	Sunflower seeds	Potatoes	Vegetables
USSR total	237,176	120,800	8,499	93,483	5,333	1/86,124	27,902
Russian Federation	136,312	66,499	---	27,161	2,549	NA	10,867
Ukraine	50,616	29,180	---	56,221	2,430	NA	8,337
Belorussia	7,281	490	---	1,324	---	NA	895
Uzbekistan	2,538	674	5,500	---	---	NA	2,127
Kazakhstan	27,874	18,832	260	2,624	103	NA	1,073
Georgia	671	268	---	119	11	NA	501
Azerbaijan	1,169	824	598	---	---	NA	875
Lithuania	2,798	757	---	866	---	NA	362
Moldavia	3,536	1,708	---	3,067	234	NA	1,254
Latvia	1,119	254	---	293	---	NA	185
Kirgizia	1,502	748	205	1,668	---	NA	316
Tadzhikistan	336	191	909	---	---	NA	316
Armenia	277	171	---	140	---	NA	429
Turkmenistan	259	68	1,027	---	---	NA	283
Estonia	888	156	---	---	---	NA	82

--- = Negligible or none.

NA = Not Available.

1/ Revised upward.

Narodnoye Khozaistvo V SSSR 1978 g. does not show revised version in breakdown.

Table 18--Livestock numbers and animal units as of January 1, 1979, by republic, USSR

Republic	Cattle	Cows	Hogs	Sheep	Goats	Poultry	Animal units 1/
	----- Thousand head -----			----- Million head -----			
USSR total	114,086	43,016	73,484	142,600	5,504	953.2	141.6
Russian Federation	58,509	22,248	36,246	64,692	2,769	522.9	72.0
Ukraine	25,379	9,228	20,659	8,969	232	215.5	30.3
Belorussia	6,776	2,751	4,557	536	21	34.5	7.3
Uzbekistan	3,228	1,246	368	7,541	595	23.1	3.8
Kazakhstan	8,017	2,819	2,857	33,581	585	45.3	11.1
Georgia	1,536	598	883	1,936	94	18.1	2.0
Azerbaidzhan	1,721	646	167	5,067	191	17.1	2.2
Lithuania	2,197	875	2,558	62	4	13.3	2.8
Moldavia	1,089	420	2,011	1,236	16	17.7	1.9
Latvia	1,389	567	1,413	211	6	10.1	1.7
Kirgizia	957	366	298	9,837	200	9.6	2.0
Tadzhikistan	1,129	423	123	2,377	563	6.1	1.3
Armenia	755	291	221	2,231	41	8.9	1.0
Turkmenistan	583	219	148	4,182	187	4.9	1.0
Estonia	821	319	975	142	0	5.8	1.0

1/ In terms of cows. Conversion ratios as follows: cattle (other than cows) .6; hogs .3; total sheep and goats .1; and poultry .02; excludes horses.



Table 19---Government procurements of grain, USSR, 5-year averages, 1961-75, and annual, 1966-78

Year	Wheat	Rye	Feed grains				Millet	Buckwheat	Rice	Pulses	Others	Total grain
			Barley	Oats	Corn	Total						
1,000 metric tons												
Average, 1961-65	30,253	5,845	6,355	674	4,121	11,150	1,155	242	207	2,151	634	51,637
1966	56,848	4,734	6,991	637	1,529	9,157	1,601	379	440	1,507	318	74,984
1967	38,165	4,182	6,909	1,473	1,995	10,377	1,613	559	579	1,322	437	57,234
1968	48,965	5,535	7,727	977	970	9,674	1,291	700	714	1,798	370	69,047
1969	36,127	3,332	7,272	1,341	2,470	11,083	1,512	639	759	1,679	409	55,540
1970	51,046	5,399	9,130	1,411	1,724	12,265	972	482	869	1,514	737	73,284
Average	46,230	4,636	7,606	1,168	1,738	10,512	1,398	552	672	1,564	454	66,018
1971	47,338	4,809	5,188	1,340	1,689	8,217	898	551	1,048	1,002	256	64,119
1972	42,106	2,978	7,042	1,710	2,013	10,765	1,016	365	1,218	862	661	59,971
1973	57,995	3,188	17,811	2,363	2,909	23,083	2,637	666	1,235	1,424	301	90,529
1974	38,268	6,618	15,895	2,348	3,021	21,264	1,530	440	1,337	1,481	2,347	73,285
1975	29,522	2,865	9,434	2,175	2,366	13,975	460	156	1,456	607	1,172	50,213
Average	43,046	4,092	11,074	1,987	2,400	15,461	1,308	436	1,259	1,075	947	67,624
1976	49,309	5,078	24,338	2,893	2,539	29,770	1,764	421	1,412	1,619	2,754	92,127
1977	42,211	2,156	13,329	2,791	2,272	18,392	902	460	1,547	1,034	1,325	68,027
1978	60,622	5,660	18,320	3,224	2,084	23,628	1,189	424	1,489	1,459	1,430	95,901
1979												
1980												
Average												

Table 20--Government procurements of nongrain crops, USSR, 5-year averages, 1961-75, and annual, 1971-79

Year	Seed cotton	Sugar- beets	Sunflower- seeds	Fiber flax	Potatoes	Vegetables	Fruit, berries, and grapes	Tobacco 1/
	1,000 metric tons							
1961-65 average	4,996	55,353	3,372	376	8,353	6,736	3,238	135
1966-70 average	6,099	74,426	4,672	421	10,921	9,416	5,431	206
1971	7,101	64,329	4,359	461	11,482	11,467	6,351	230
1972	7,296	68,043	3,753	439	11,087	11,234	5,325	275
1973	7,664	77,799	5,553	421	15,410	14,126	7,793	273
1974	8,409	67,484	5,228	364	11,156	14,657	7,933	292
1975	7,864	61,880	3,841	478	14,527	13,883	8,541	287
Average	7,667	67,907	4,547	433	12,732	13,073	7,189	271
1976	8,278	85,142	3,770	483	13,436	16,027	9,684	299
1977	8,762	84,869	4,447	440	17,100	16,263	9,439	300
1978	8,500	80,061	4,028	329	14,951	18,374	9,210	273
1979	9,160	2/68,000	NA	NA	NA	NA	NA	NA
1980								
Average								

1/ Excluding makhorka.  
2/ Estimate

NA = Not available.

Table 21--Government procurements of livestock products, USSR,  
5-year averages, 1961-75, and annual, 1971-79

Year	Total meat <u>1/</u>		Milk	Eggs	Wool <u>2/</u>
	Live weight	Carcass weight	and milk products		
	1,000 tons			Millions	1,000 tons
1961-65 average	8,554	5,246	31,232	8,665	369
1966-70 average	11,610	7,318	43,197	14,404	412
1971	14,163	9,203	47,078	21,570	457
1972	15,023	9,712	48,443	24,299	452
1973	14,695	9,471	52,978	27,544	470
1974	16,187	10,474	55,768	30,892	507
1975	16,765	10,861	56,296	33,065	511
1971-75 average	15,367	9,944	52,113	27,474	479
1976	15,108	9,307	56,220	32,897	481
1977	16,286	10,186	60,762	36,831	512
1978	17,034	10,713	60,368	39,288	528
1979 <u>3/</u>	16,700	10,400	59,000	41,000	NA
1980					
1976-80 average					
1981					
1982					
1983					
1984					
1985					
1981-85 average					

NA = Not available.

1/ Livestock and poultry.

2/ Greasy basis.

3/ Preliminary.



Table 22--USSR consumption norm, selected food products and per capita consumption, selected years 1950-1980 plan

Year	Meat and fat	Fish and fish products	Milk and milk products	Eggs	Sugar	Vegetable oil	Potatoes	Grain	Vegetables: and melons	Fruits and berries
	Kilograms			No. of eggs	Kilograms					
Consumption norm	82	18.6	405	292	40.0	9.1	97	110	146	113
1950	26	7.0	172	60	11.6	2.7	241	172	51	11
1960	40	9.9	240	118	28.0	5.3	143	164	70	22
1970	48	15.4	307	159	38.8	6.8	130	149	82	35
1966-70 average	47	14.3	287	144	37.2	6.5	132	150	78	NA
1971	50	14.8	300	174	39.5	7.0	128	147	85	39
1972	52	15.1	296	185	38.8	7.0	121	145	80	36
1973	53	16.1	307	195	40.8	7.3	122	143	85	41
1974	55	16.5	316	205	41.0	7.9	121	142	87	37
1975	57	16.8	315	216	40.9	7.6	120	141	89	39
1971-75 average	53	15.9	307	195	40.2	7.4	122	144	85	38
1976	56	18.4	316	209	41.9	7.7	119	141	86	39
1977	56	17.1	321	222	42.4	8.1	120	139	88	41
1978	57	16.9	321	230	43.0	8.2	120	140	90	41
1979										
1980 plan	63	20.9	335	225	50.0	NA	115	144	113	44
1976-80 average										

Note: Consumption norm is the level of consumption recommended by the Institute of Nutrition, Academy of Sciences, USSR.  
NA = Not available.

1/ Including milk equivalent of butter.  
2/ Flour equivalent.

Table 23--Soviet agricultural imports 1974-78, by value

Commodity	1974	1975	1976	1977	1978
-- Million U.S. dollars 1/ --					
Animals for slaughter	112.6	190.0	101.1	115.8	76.5
Breeding animals	4.4	7.9	5.9	6.3	7.0
Meat and meat products	476.7	495.0	379.7	691.7	257.7
Milk and milk products	23.5	31.6	33.8	42.2	35.0
Eggs and egg products	27.2	34.8	29.5	87.6	32.3
Grains	706.7	2,673.2	2,968.3	1,371.0	2,416.9
Wheat flour	51.9	92.6	88.0	102.6	66.0
Rice	69.4	101.0	102.3	129.6	153.3
Vegetables and potatoes	181.1	250.8	274.4	362.7	391.4
Fruits and berries, fresh	190.5	245.6	264.0	262.0	300.6
Dried fruit	51.5	67.7	48.4	87.6	83.4
Processed fruits and berries	57.2	104.9	99.8	112.2	125.3
Nuts	107.0	114.7	78.5	146.3	118.1
Sugar, raw	806.3	2,184.2	1,936.9	2,352.8	3,129.1
Sugar and confectionary	10.2	2.1	138.3	115.6	7.7
Coffee, cocoa, tea	384.1	505.7	455.6	615.2	615.0
Spices	21.8	22.4	27.5	31.2	35.9
Alcoholic and non-alcoholic drinks	392.3	530.1	505.8	532.5	621.2
Tobacco, raw	143.0	226.2	212.0	233.8	224.1
Tobacco products	233.0	297.9	314.4	328.7	364.4
Furs	6.9	2.0	2.1	2.9	2.8
Raw hides	87.3	64.9	55.3	6.6	52.4
Oilseeds	38.8	129.3	454.3	390.3	270.8
Vegetable fibers	353.5	289.4	247.5	234.9	102.0
Wool	356.0	266.6	304.2	368.1	417.6
Animal fats including butter	10.2	12.1	10.5	67.9	47.0
Vegetable oils	36.2	54.8	58.3	83.1	83.5
Technical fats and oils	29.8	53.8	32.6	47.0	68.6
Seed and planting materials	86.9	86.3	105.1	193.1	128.6
Total agricultural imports:	5,065.1	9,137.6	9,335.1	9,121.3	10,244.2

1/ Soviet official data converted at 1 ruble = \$1.32 in 1974; 1 ruble = \$1.34 in 1975; 1 ruble = \$1.33 in 1976; 1 ruble = \$1.34 in 1977; 1 ruble = \$1.46 in 1978.

Source: Compiled from Vneshnaya trgovlya v SSSR, 1975-78.

Table 24--Soviet agricultural exports, 1974-78 by value

Commodity	1974	1975	1976	1977	1978
-- Million U.S. dollars 1/ --					
Meat and meat products	54.6	50.9	49.5	38.5	51.4
Milk and milk products	31.2	34.6	36.0	36.4	40.2
Grains	822.1	508.0	212.9	508.0	205.1
Flour and pulse products	235.1	173.9	186.1	172.3	185.7
Vegetables, fruits, and nuts	30.2	31.6	24.9	29.5	28.5
Sugar and confectionary	51.6	36.8	35.5	33.0	58.8
Alcoholic and non- alcoholic drinks	45.1	51.2	54.0	57.5	72.4
Tobacco products	4.1	6.3	4.9	6.2	7.3
Furs	77.4	72.8	108.7	115.4	134.9
Raw hides	11.9	13.1	12.6	7.1	7.2
Oilseed, tobacco and other raw materials	75.5	78.1	54.5	67.3	62.3
Vegetable fibers	873.6	936.3	1,033.2	1,375.9	1,247.8
Wool	16.4	16.3	8.2	12.5	11.8
Animal fats including butter	60.3	73.1	57.5	74.8	83.5
Vegetable oils	346.0	310.7	172.0	141.0	98.8
Technical fats and oils	6.6	7.2	5.3	2.7	3.6
Seeds and planting materials	25.9	25.6	22.3	40.5	34.9
Total agricultural exports	2,767.6	2,426.5	2,078.1	2,718.6	2,334.2

1/ Soviet official data converted at 1 ruble = \$1.32 in 1974; 1 ruble = \$1.34 in 1975; 1 ruble = \$1.33 in 1976; 1 ruble = \$1.34 in 1977; 1 ruble = \$1.46 in 1978.

Source: Compiled from Vneshnaya trgovlya v SSSR, 1975-78







Table 27--U.S. agricultural trade with the USSR, 1971-79

Commodity	1971	1972	1973	1974	1975	1976	1977	1978	1979	1/	1980
Exports 2/											
Wheat	.7	160.0	556.6	124.1	672.7	264.2	426.8	355.8	811.7		
Coarse grain 3/	26.3	232.7	359.9	176.1	457.8	1,180.2	412.4	1,109.4	1,433.1		
Corn	24.5	186.5	294.5	159.5	452.6	1,170.1	412.4	1,109.4	1,402.1		
Soybeans	--	53.6	87.2	--	2.9	126.4	154.4	222.1	459.3		
Cattle hides	10.9	9.6	1.1	7.9	5.2	2.5	.8	8.1	3.2		
Fruits, nuts & berries	1.5	1.1	2.8	5.3	6.1	8.4	20.4	16.8	15.9		
All other	5.2	2.4	9.5	10.3	25.6	23.2	38.0	52.9	131.7		
Total	44.6	459.4	1,017.1	323.7	1,170.3	1,604.8	1,052.8	1,765.1	2,854.9		
Imports											
Bristles	4/	.2	.5	.4	4/	--	--	--	--		
Casein and glue	--	--	.2	2.0	1.7	.7	1.7	2.4	3.0		
Furskins	2.7	3.0	3.1	4.5	3.5	6.1	8.0	8.8	9.8		
Gelatin	--	4/	.3	.3	4/	.1	4/	--	--		
Licorice root	.1	--	--	--	1.0	.6	--	--	--		
All other	.2	.6	.6	1.3	1.0	.9	0.4	5/ 1.1	6/ 1.9		
Total	3.0	3.8	4.7	8.5	7.2	8.4	10.1	12.3	14.7		

-- = Negligible or none.

1/ Preliminary.

2/ Including transshipments through Canada, Belgium, the Netherlands, and West Germany.

3/ Includes corn, rye, barley, oats, and sorghum.

4/ Less than \$50,000.

5/ Includes \$601,000 for cigarettes made from turkish tobacco.

6/ Includes \$1,171,000 for cigarettes made from turkish tobacco.

Source: U.S. Foreign Agricultural Trade Statistics Reports, calendar year.











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